Trainee Workbook

Atlas 6.0 for Microsoft Dynamics AX 2012

Introduction to Reporting
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1 INTRODUCTION

1.1 Welcome

Training is a vital component of retaining the value of your Atlas investment. Our training keeps you up-to-date on your solution and helps you develop the skills necessary for you to fully maximize the value of your investment. Whether you choose to undertake Classroom Training, or download our Training Materials and/or Instructional Videos, there's a type of training to meet your needs.

1.2 About this course

This course provides you with a general introduction to the Atlas reporting system. This introduction includes:

Course description

This instructor-led course provides students with the knowledge to use the standard functions of the Atlas reporting system. The course focuses on the main reporting functions and demonstrates each in isolation and in context. The course includes explanations of how to log in, the Atlas ribbon bar, data sources, task panes, and various query – building options.

This is the first course in the Atlas 6.0 curriculum and will serve as an entry point for other Atlas 6.0 courses.

Audience

This course is intended for all students who wish to learn about the Atlas reporting system and its functional application in accomplishing business objectives.

Pre-requisites

It is expected that students have a moderate understanding of Microsoft Excel, familiarity with tables and fields in databases, and the general idea behind data cubes. General navigation through and a foundation understanding of Microsoft Dynamics AX2012 is also needed.

1.3 Course Objectives

The objective of this course is to provide you with the ability to:

- Navigate the reporting system using the Atlas ribbon and task panes
- Work with data sources, table lists, fields and filters
- Design and build queries using all Atlas functions
- Drill down from reporting documents
- Navigate the Atlas Desktop
- Join and Merge tables
- Work with Snippets
2 ATLAS FOUNDATION CONCEPTS

2.1 Outline and Objectives

The purpose of this chapter is to get you started with the Atlas reporting system. It will explain the basics of logging into Atlas via the client and basic Atlas navigation.

At the completion of this chapter, you will be able to:

- Log-in and out of the Atlas office client
- Understand the Atlas Ribbon Bar as it applies to the Atlas reporting system
- Learn the basics behind each of the 4 groups in the ribbon bar
- Learn the basics of navigating the task panes
- Preview some of the Atlas concepts to be explained later

2.2 Logging into the Atlas Office Client

The Atlas Office Client is the gateway to integrating your Microsoft Office System with Microsoft Dynamics AX and CRM, as well as any SQL Cubes and SQL databases. It is the means by which you can log into Atlas and it is also used to determine which Data Sources you will connect to. It can be started automatically or manually depending on the settings you choose.

1. Click the Atlas 6.0 client icon on your desktop to open it on the desktop and also place a copy in your windows task tray. At this point the Atlas icon will be grayed out.
2. Click the **Settings** tab, then click the right/left arrows to move the **User Experience** indicator until your desired level of login preference is set:
   1) **Manual Startup**
   2) **Remember Me**
   3) **Remember Me and Password**
   4) **Remember Me and Password**
      Show Atlas Office Client at Startup
   5) **Remember Me and Password**
      Automatic login with windows

3. Click the **Identification** tab and enter your **Domain Account & Password**
   1) Your previous **Settings** will be applied
   2) AX security attached to this profile will be enforced

4. Click the **Login** button and note the data sources being loaded within the **Notification** box
   1) These data sources are identified and setup for use within another component of Atlas called the Management Studio
   2) The Atlas Client is linked to each data source by means of other components of Atlas called Servers. These data sources might include
      a. Several instances of AX and/or CRM
      b. Any SQL Cube
      c. Any SQL database

5. When login is in process, messages appear within the Atlas Office Client **Notification** box
   1) In addition a balloon message pops up from the windows task tray indicating login progress

6. When login is complete
   1) Successful login to available data sources for this session is indicated
   2) The Atlas icon in your windows task tray is now bright green
7. When you next open one of the four Microsoft Office applications, an additional Atlas 6.0 tab will be available along the top right margin of each application.

*Note: You can close the login form once log-in is successful. The Atlas Office Client is running in your windows task tray and can be seen as an icon therein.*

### 2.3 Navigating the Atlas Ribbon Bar

You cannot see the Atlas Ribbon Bar until you open a Microsoft Office application. The first thing you will see is a new Atlas tab which appears in the upper right alongside that application’s tabs.

*Note: Atlas does not disable any of the functions of its host Office application. As you can see all other Office application tabs remain visible, and operational.*

1. Open MicrosoftExcel
2. Click the **Atlas 6.0** tab to reveal the Atlas icons on the ribbon bar:

   ![Atlas Ribbon Bar](image)

   The Atlas ribbon bar is divided into four **Groups** – Insert, Inspector, Data, Help.

---

1 Excel, Word, PowerPoint or Outlook
1. **Insert** group

   Create **New** queries in a document
   
   Access saved query **Snippets**

2. **Inspector** group – review and modify existing in-document queries

   **Data** – change output fields
   
   **Filter** - change input filters
   
   Modify **Style** (field properties, color scheme, cell format...)

3. **Data** group

   **Cache** list queries can be created to dramatically improve the performance of other queries setup to consume these Atlas caches
   
   **Parameters** act as filter value placeholders during query design (ie Word content boxes)
   
   **Navigation** query troubleshooting – technical tool
   
   **Refresh** returns information in a data source to a document
   
   **Upload** create and execute new templates in a document
   
   **Drill down** apply and activate separate drill queries for a host document
4. **Tools** drop down list within the **Help** group

   - **Show system names** allows toggling between label names and system names in the Atlas task panes
   - Change data source names in an existing document with **Manage data sources**
   - Disconnect / re-connect Atlas formulas in a document for a non-Atlas user by using **Manage Atlas functions**

### 2.4 Navigating the Atlas Task Panes

![Atlas Task Panes Image]

1. Begin by opening a new excel worksheet
2. Reporting and Upload task panes are used to build queries and templates respectively.
3. These panes are opened from the Atlas Ribbon bar
4. Reporting queries are created by clicking on **+ New**
   - a. The **New Object** (Reporting) pane is positioned along the left margin
   - b. Atlas queries are displayed in this reporting pane
   - c. Atlas reports are displayed in the body of the worksheet
5. Upload templates are created by clicking on **Upload**
   - a. The **Upload** pane is positioned along the right margin
   - b. Atlas templates are displayed in this upload pane
1. The **Drill down viewer** is activated from the Atlas Ribbon bar
2. Position the cursor within a worksheet cell which is configured for Atlas drill down
   Drill down is sensitive to the cell you drill from
3. Click the **Drill down** button
4. Drill down Information related to the host worksheet will be displayed in the pane along the right margin
   As the cursor is re-positioned in different cells, the drill down refreshes
ATLAS 6.0 Foundation Example.xlsx

1) Click the **Dashboard pop up** icon from the drill down viewer

2) Notice the Drill down **Overview** is only one page of others created in this **Atlas Desktop Presentation**

   The **Overview** page was intentionally setup to provide the drill down view in this example

3) A separate query called **Dashboard** is also accessible in the Desktop Client, by clicking its tab

   There are four total tabs (pages) in this Atlas Presentation

4) All Atlas desktop presentation pages will refresh

   When the cursor is repositioned on another cell in the host document

   Or the host document is refreshed

5) The Atlas Desktop will be further explained in Chapter 6
1) **Logout** is done from the Atlas Office Client

2) Double click the Atlas Office Client icon in the windows task tray

3) Click the green **Logout** button

4) Logout messages will appear in the **Notification** pane

5) The Atlas Office Client in the windows task tray will stop and icon turn gray

6) To remove the Atlas Office Client from the windows task tray right click it and choose **Exit**
2.5 **Key points**

This chapter introduced Atlas Foundation Concepts. In particular you learned about:

- Opening the Atlas Office Client and logging in
- The Atlas Office Client can be started when your computer is started
  - Or it can be started on demand from an icon on your desktop
- Use your AX user name and password to log-in to Atlas
- When connected the Atlas Office Client status will change to show "Online"
  - The icon in the task tray will change from gray to green
  - You can close the login form at any stage after log-in
    - The program will continue running in the task tray

- Atlas appears as a tab in your Microsoft Office menu
- Click the tab to reveal the Atlas ribbon bar
  - The ribbon bar icons will be grayed out if you have not logged into Atlas.

- The ribbon bar is divided into four groups
  - Insert – create new queries
  - Inspector – modify existing queries
  - Data – advanced queries, upload templates, drill down
  - Help – additional tools

- Atlas Task Panes reside along left and right margins
  - New Object (Reporting) (Left)
  - Upload (Right)
  - Drill Down (Right)

- Open the windows task tray to manage the Atlas Office Client at any stage.
  - For example to Logout of Atlas
  - Atlas Office Client will stop and icon turns gray
  - To remove the Atlas Office Client from tray right click it and choose **Exit**
3 DATA SOURCES, TABLE LISTS, FIELDS, AND FILTERS

3.1 Outline and Objectives

The purpose of this chapter is to familiarize you with the concepts of data sources and table lists. Atlas 6 lets you access numerous different data sources, and tables in each data source can optionally be organized into table lists for sake of convenience. Therefore both must be in place and understood before queries can be created. The first part of this chapter covers these concepts.

Next, we examine the steps required to create queries. We will introduce the two styles of queries, Single cell and Table. Within each style we will also introduce Atlas query functions, and in following chapters we will examine each query function in further detail.

Finally, using the Atlas reporting task pane we will illustrate the basic steps required to build a query into an excel worksheet and execute it.

At the completion of this chapter, you will be able to:

- Review Data Source(s) available to your Atlas Office Client
- Create, maintain, and Save Table List(s) for data source(s)
- Select a Data Source for a new query
- Select a Query Style and Function for a new query
- Select a primary Table from a Table List
- Select Fields for a new Query
- Select Filters for a new query
- Choose from among three Filter value methods for a new query
- Insert a new query into an excel worksheet
- Execute the new query within the excel worksheet
3.2 Maintaining Data Sources and Table Lists

1. Atlas 6.0 can access several data sources, for example
   a. Several instances of AX2012 and/or CRM
   b. Any SQL cube
   c. Any SQL database
2. Each data source has its own Atlas server
3. Each Atlas Office Client can be configured to connect to one or more of these servers
4. After these servers have been started, and you are logged into Atlas:
   a. The available data sources will show up in the Data source pane along the left margin of your office document
5. When ready to begin creating a query, selecting the primary data source will be step one
6. Data can also be merged from different data sources into separate columns of the same worksheet

   Explained later in this guide
1. After selecting a Data Source a Table list can be created
   a. A Table List is a subset of all the tables within a data source which an Atlas designer will use frequently
   b. Only one default Table List can be created and stored for each data source
2. To create a new default Table List type a partial Search name in the Add Table to List field
   a. Tick Search in Server to display all tables in the selected data source which match the search values
   b. Left click to highlight, then right click the desired table and click Add to list
   c. Click Save to save selected table(s) in the default table list
   d. If you don’t save tables in the list, they will be removed from the table pane when you close the session
3. The default table list created for a data source is given an internal file name by Atlas
   a. When selecting a different data source you will be presented with its default table list, if any
4. If a data source is AX, AOT views can be added to its Table List
   a. As well as all custom AX tables and fields
   b. After adding an AOT view, custom table, or custom field to a Table list
      Right click it in the Table pane and choose Refresh to allow Atlas to recognize it

When Data Sources and Table Lists are in place, you are ready to proceed with query creation...
3.3 Choosing Query Style and Function

1. To begin creating a new query for use in an excel workbook first choose an Atlas query **Style** and **Function** from the reporting task pane

   a. Open a new excel worksheet
   b. Place the cursor in the cell of the worksheet where the query will be inserted
   c. Click the **New** Icon within the **Insert** group
   d. Click **Toolbox** to create a new query
   e. Enter a **Title** for the query
   f. Determine a Query style – either **Single Cell** or **Table**
   g. If **Single Cell** style is chosen click one of these **Functions**
      - **Value** – only numeric fields allowed in query
      - **Text** – all fields allowed in query (some numbers are text)
      - **Lookup** – creates a selection list to assist data entry
   h. If **Table** style is chosen click one of these **Functions**
      - **List** – detailed transaction level reporting
      - **Summary** – aggregated, overview reporting
      - **Matrix** and **Pivot Table** also available – (discussed later in this guide)
3.4 Configuring Fields and Filters

1. Once you have chosen style and function, to complete and execute a query within an excel workbook, always complete these *Four Steps* in order, ...

**Select:**

1) Data Source
2) Table(s)
3) Field(s)
4) Filter(s)

1) Continuing the *Single Cell* style / *Value* function example from above
2) Click **Next >** from the *New Object* Pane
3) You are presented with the *Data source* pane,
4) Highlight the primary data source from those available in your Atlas Office Client
5) Click **Next >**
1) You are presented with the Atlas Table pane
2) Locate and left click to highlight the primary table for your new query from the default Table List for that data source
3) To browse data in a table left click the blue eyeball to the right of the table name and select View All or Data Sample
4) To add this primary table to the query, left double click it
5) OR Click Next > to choose fields
1) You are presented with the Atlas *Fields* pane

2) The field(s) you select will be the output(s) from the query

3) Click to *Show all fields* in the table

4) Enter a partial or complete Field (label) name if needed to *Search* the table

5) Tick to select the desired *Fields*

6) Click *Next >* to choose filters and enter values
1) You are presented with the Atlas **Filters** Pane
2) The filter(s) you select will be the inputs for the query
3) Click to **Show all fields** in the table
4) Enter a partial or complete Field (label) name if needed to **Search** the table
5) **Tick** to select the desired Filter(s)
1) Click the COG to the right of the filter to expand the expression box

2) In the expression entry box use one of these three methods of entering filter values
   a. Through a Named Range mapping to a cell location in the worksheet (prefixed with =)
   b. Using the “Lookup in data source” magnifying glass or manually entering a Literal value
   c. Through a direct Cell Reference (ie =D$13) using the Atlas Pick shortcut

3) Each of these filter value entry methods will be reviewed next
1) To use a **Named Range** to map the filter to a cell location in the worksheet:

2) Click the **COG** to open the filter expression box

3) Right click the filter name within the blue box and click the system name beginning with =

4) The system name will be pasted into the value field

5) In the Excel **Name Box**, map this system name to the worksheet cell which contains the filter value (omit the = prefix)

6) Click the **COG** to close the filter expression box
1) To use a **Cell Reference** (ie =D$13) using the Atlas **Pick** shortcut to map the filter to a cell location in the worksheet:

2) Be sure the cursor is in the Home cell where the query will be entered

3) Click the **COG** to open the filter expression box

4) Click the “**Pick**” radio button to open the **Date** pop up box

5) Left click the worksheet cell containing the filter value

6) Click **OK** to close the pop up box

7) Click the **COG** to close the filter expression box
1. Click the COG to open the filter expression box

2. To "Hard Code" a filter value directly into the query there are 2 options
   a. Click the “Lookup in data source” magnifying glass
      
      **Tick** the desired value from the pop up pane to paste it into the value field

      **Note:** If an AX data source is used, Atlas recognizes these AX Interval codes in place of dates

   b. Manually enter a **Literal value** directly into the expression box
      
      For example type... 1/01/2012..01/01/2013
1) Position the cursor is cell D15
2) Click **Insert** to embed the query in the worksheet
3) The query is immediately executed
4) The query results are displayed in D15
### 3.5 Key points

This chapter examined the pre-requisites for creating a new Atlas query. It also covered the basic steps required to create a very simple query.

In particular you learned how to

- Review Data Source(s) available to your Atlas Office Client
- Create, maintain, and Save Table List(s) data source(s)
  - Add and remove tables and AOT Views (if AX is the data source)
  - Custom AX tables and fields can be included (if AX is the data source)
- Select a Data Source for a new query
- Select a new query Style and Function
- Select a primary Table from a Table List
  - Use Atlas to browse the records and fields in a table while you are deciding which table(s) to use in a query
- Select Fields for a new Query
- Select Filter(s) for a new query
  - Set a value for each filter
  - Choose from among three Filter value methods
    - Named range (= system name) is recommended
    - Cell Reference (ie use Atlas “Pick shortcut”)
    - Enter a Literal Value (or use “magnifying glass” to choose value from table)
  - If using an AX data source, filter values must follow the AX syntax:
    - =XYZ all values equal to XYZ
    - !XYZ all values not equal to XYZ
    - <XYZ all values less than XYZ
    - >XYZ all values greater than XYZ
    - X..Z all values from X to Z (inclusive)
    - XY* all values that begin with XY
    - *YZ all values that end in YZ
    - *Y* all values with Y anywhere in it
    - ?* only if values exist
    - ** only if values don’t exist
- Insert a new query into an excel worksheet
- Execute the new query within an excel worksheet
3.6 Quick interaction

Take a moment to write down the three key points you have learned:

1. 

2. 

3. 

4 SINGLE CELL STYLE QUERIES

4.1 Outline and Objectives

The Single Cell query Style uses formulas to return numeric or text value(s) into cell(s) in a worksheet. These formulas are created using one of three Single Cell Functions: Value, Text, or Lookup. You can build complex, single cell reports which contain a mixture your own data and formulas intermixed with Atlas formulas in different cells. When numeric cells containing standard excel formulas reference other numeric cells containing Atlas formulas, all cells will refresh concurrently. Once built, these single cell formulas can be copied across rows, down columns, and copied to the clipboard and pasted to other applications.

At the end of this chapter, you will be able to:

- Identify the three single cell Functions of:
  - Value
  - Text
  - Lookup
- Understand how each of these three single cell functions are built and used
- Understand how you can combine the functions to build sophisticated reports
- Understand how to edit reports that use these functions
- Understand how to use these functions with other Atlas functions
4.2 Value function

Use the **Value** function when you want to return a numeric value into a worksheet cell. Each value function generates a query against field(s) and table(s) in the selected data source(s). All fields in a table can be selected as inputs but only numeric fields selected as outputs. The **Value** function is not used in isolation, but in conjunction with other Atlas formulas to form a report. Value formula(s) are refreshed automatically whenever input filter(s) change, or manually refreshed using the *standard excel recalculation features*.

The value function is heavily used in financial statements, as it can be used without interrupting a Company's document layout, format or style. Typically you will find many value functions in a financial worksheet, each with a different input filter, inserted among user defined data in other cells. Refreshing Atlas formulas typically updates all dependent cells elsewhere in the worksheet.

You can link the primary data source for this query with other data sources so that the resulting output contains information from multiple data sources. You can also join tables within a data source and use foreign fields as both report outputs and filters. These features will be discussed in a later chapter.

You can use the Value function in the following instances:

- When you want an output value to change dynamically as input filters from other cells change
- When you want to extract values from two or more numeric fields in a table and aggregate the result in a single worksheet cell
- When you want to return a single value to a worksheet cell based on more than one input filter
- When you want to return the number of records (COUNT) for a single numeric field from a table, instead of the field values (SUM)
- When the layout, format, and style of your company documents are already established - such as company balance sheets, income, and cash flow statements

*The following example uses the Value function which was also used in Chapter 3, but we will examine it in more detail*
1) To create a new **Single Cell Value** query for a worksheet

   a. Open a new excel worksheet
   
   b. Place the cursor in the cell of the worksheet where the query will be inserted
   
   c. Click the **New** Icon within the **Insert** group in the Ribbon bar
   
   d. You are presented with the Atlas **New Object** task pane
   
   e. Click **Toolbox** to create a new query
   
   f. Enter the Title **Customer Transaction Balances** for the query
   
   g. Click to highlight the **Single Cell Value** function

       Only numeric values can be extracted with this function

   h. Click **Next >**
2) You are presented with the Atlas **Data Source** pane
   
a. Highlight the AX2012R3 data source which contains the desired table, field(s), and filter(s)

b. Click **Next >**

c. You are presented with the Atlas **Table** pane

d. Locate and left click to highlight the **Customer transactions** table for your new query from the default table list in the data source
3) Hover over table names to view system names

   a. System names can help determine which table is appropriate for a query

      You can also show system names by clicking **Tools** / then ticking **Show system names** within the Help group in the Atlas ribbon bar

   b. Left click the blue **eyeball** to the right of the Customer transactions table to browse the contents

      Select **View All** or **Data Sample** to examine default fields and table data

      Browsing can also help determine which table is appropriate for a query

   c. Left double click the **Customer transaction** table to add it the query
4) You are presented with the Atlas Fields pane
   a. The selected Data source and table are listed
      The Field(s) you select will be the output(s) from the query
      (Only numeric fields in the table can be selected as value query outputs)
   b. Click the down arrow in the center to Show all fields in the table
      Enter a partial or complete Field (label) name if needed to Search the table
      a. Tick to select the Amount in Transaction Currency field
      Hover over a highlighted field if needed to view its system name
      b. Left click the blue eyeball to the right of the highlighted field to expand the expression box
         Ensure that Aggregation is set to SUM for this field
   c. Click Next >
5) You are presented with the Atlas **Filters** Pane

The selected **Data source** and **table** are listed

The filter(s) you select will be the inputs for the query

(Both text and numeric filter(s) can be selected as query inputs)

a. Click to **Show all fields** in the table

   Enter a partial or complete Filter (label) name if needed to **Search** for filter(s) in the table, then click the magnifying glass

b. Tick to select and highlight the **Date** filter

   (If needed, right click a highlighted filter to view its system name)
6) Click the COG to the right of the Date filter to expand the expression box
   a. Right click the Date filter within the expression box to expose a small box
      Left click the system name =TransDate
      The system name will be pasted into the filter expression box
   b. Position the cursor on cell D13
      Enter TransDate in the Excel Name Box
      Then hit enter
   c. Click the COG again to close the filter expression box
7) Be sure the cursor is in the Home cell (D15) where the query will reside
   a. Click **Insert** to embed the completed query in document
   b. The query is immediately executed
   c. Because this is a single cell style:
      The **Customer Transaction Balance** is presented in cell D15
      The Atlas formula is displayed in the excel formula box
   d. The task pane returns to the **Data Inspector**
      Changes can be made to the query from this pane
4.3 **Text Function**

The single cell *Text* function is used to return one or many fields to a single cell in a worksheet. All fields in a table can be selected as outputs and inputs (some numeric fields contain text). Use the Text function if you do not wish to re-type the description of a code each time it is changed in a worksheet. For example if inputs to a text formula are ledger account codes, customer codes, or vendor codes, outputs would typically be corresponding names or descriptions. Text formula(s) are refreshed automatically whenever input filter(s) change, or manually refreshed using the *standard excel recalculation features*.

The Text function is used in conjunction with other Atlas functions. Because it is a single cell formula, the text function will only find the first record in the table matching your input filter, and insert it in a cell in your worksheet.

You can link the primary data source for this query with other data sources so that the resulting output contains information from multiple data sources. You can also join tables within a data source and use foreign fields as both report filters and outputs. These features will be discussed in a later chapter.

You can use the text function in the following instances:

- When you want to provide a name or description for an input filter code in a report
  - You want a name or description to change as its account number changes
  - To improve the readability of any Atlas document
- When you want to extract text from a number of fields and present it all in one cell. For example to obtain (City, State, Zip Code) information for requested customers.
- During an upload to multiple tables you may sometimes be required by AX to extract a RecId from one table, and pass it on to another table.
  - The text function can be used to extract the RecId from the first table and display it in a worksheet cell, where it can then be uploaded to the next table
- Whenever you wish to make any Atlas report *or upload* document more readable to a business person
1) To create a new **Single Cell Text** query for a worksheet
   a. Open a new excel worksheet
   b. Place the cursor in the cell of the worksheet where the query will be inserted
   d. Click the **New** Icon within the **Insert** group in the Ribbon bar
   e. You are presented with the Atlas **New Object** task pane
   f. Click **Toolbox** to create a new query
   g. Enter the Title **Customer Names** for the query
   h. Click to highlight the **Single Cell Text** function

      Both text and numeric fields can be extracted from table(s)

      Some numeric fields contain text

   i. Click **Next >**
2) You are presented with the Atlas Data Source pane
   a. Highlight the AX2012R3 data source which contains the desired table, field(s) and filter(s)
   b. Click Next >
   c. You are presented with the Atlas Table pane
   d. Left click the COG to the right of the Add table to list field
   e. Click Show all tables to display all tables in the data source
3) In the **Filter tables** field, type **CustTable**

You are presented with the tables in the data source whose label name or system name contains the letters **CustTable**

a. Hover over table names to view system names

   Locate the table whose system name is **CustTableCube**

   Right click to **Browse** the table contents

   Left click and select **Add to List** to add this table to the default table list for this data source

b. Left click to ensure this table is highlighted for use in the query

c. Click **Next >**
4) You are presented with the Atlas **Fields** pane

a. The selected Data source and table are listed

   The **Field(s)** you select will be the output(s) from the query

   (Both text and numeric fields can be selected as text query outputs, as some numeric fields contain text)

b. Click the down arrow in the center to **Show all fields** in the table

   Enter a partial or complete Field (label) name if needed to **Search** the table

c. Tick to highlight and select the **Name (Name)** field

d. Click **Next >**
5) You are presented with the Atlas Filters Pane
   a. The selected Data source and table are listed
      The filter(s) you select will be the inputs for the query
      (Both text and numeric filter(s) can be selected as inputs)
   b. If needed click to Show all fields in the table
      Enter a partial or complete Filter (label) name to Search the table
   c. Tick to select and highlight the Customer account filter
6) Create a **Cell Reference** using the Atlas **Pick** shortcut to map the filter to a cell location in the worksheet:

   Be sure the cursor is in the Home cell **D15**
   a. Click the **COG** to the right of the filter to open the expression box
   b. Click the “**Pick**” radio button to open the rectangular pop up box
      Left click the worksheet cell **D13** containing the filter value
      **$D$13** will be pasted into the pop up box
   c. Click **OK** to close the pop up box
      Click the **COG** to close the filter expression box
7) Position the cursor in cell (D15) where the query will reside
   Ensure there is a valid customer number in cell D13
   a. Click **Insert** to embed the completed query in document
      The query is immediately executed
   b. Because this is a single cell style:
      The **Customer Name** is presented in cell D15
      The Atlas formula is displayed in the excel formula box
   c. The task pane returns to the **Data Inspector**
      Changes can be made to the query from this pane
4.4 Lookup function

Use the **Single Cell Lookup** function to provide users with a list of filter values from which they can choose. A lookup query is often used to display a list of number codes and names positioned within the Atlas right hand task pane, such as:

- Customer numbers and Names
- Vendor numbers and Names
- Item numbers and Names

Lookup formulas are often inserted into a filter cell in the report header of a document. Users can browse the task pane then select one or more values by ticking them directly within the lookup list. The ticked selection(s) are returned to the filter cell, which triggers other Atlas functions in the document to refresh the report.

Use this function build a lookup list for any field value, from any table that makes sense relative to the report you are building. Different lookup formulas can be inserted into different cells within the same column of a worksheet.

You can link the primary data source for this query with other data sources so that the resulting output contains information from multiple data sources. You can also join tables within a data source and use foreign fields as both report outputs and filters. These features will be discussed in a later chapter.

The Lookup function is used in conjunction with other Atlas functions to form a report. Use Lookup in the following instances:

- When you want a user to select one or more values from a list of valid alternatives when refreshing a report
- When you want to build separate lookup lists within different cells of an upload document
  - For example, when entering ledger account numbers in lines in a general journal
    - Provide a Lookup List of all the main accounts in the company chart of accounts
    - Tick to select the desired main account from the list and paste it in the journal line
1. To create a **Single Cell Lookup** query within a worksheet
   a. Open the excel worksheet above which contains an existing report
      Enter any valid customer number in E10 and the report below it will refresh
      We will now build a lookup into E10
   b. Place the cursor in the worksheet filter cell E10
   c. Click the **New** icon within the **Insert** group in the Ribbon bar
   d. You are presented with the Atlas **New Object** task pane
   e. Click **Toolbox** to create a new query
   f. Enter the Title **Customer Lookup List** for the query
   g. Click to highlight the **Single Cell Text** function
   h. Click **Next >**
2) You are presented with the Atlas **Data Source** pane
   a. Highlight the AX2012R3 data source which contains the desired table, field(s) and filter(s)
   b. Click **Next >**
   c. You are presented with the Atlas **Table** pane
   d. Locate and left click to highlight the **CustTableCube** table for your new query from the default table list in the data source
3) You are presented with the Atlas Fields pane

The selected Data source and table are listed

The Field(s) you select will be the output(s) from the query

a. All fields in the table can be selected as outputs for a lookup query

b. Click the down arrow in the center to Show all fields in the table

   Enter a partial or complete Field (label) name if needed to Search the table

c. Tick to highlight and select both the Customer (AccountNum) and Name (Name) fields

   Drag and drop to ensure the Customer (AccountNum) field is positioned at the top of the field list in the task pane on the left

   Note: this ensures Customer (AccountNum) will be positioned in the first column of the lookup list when it appears on the right

   (A user can only select from the first column in a lookup list)

d. Click Next >
4) You are presented with the Atlas **Filters** Pane
   
a. The selected Data source and table are listed
   
The filter(s) you select will be the inputs for the query
   
   All fields in the table can be selected as filters
   
b. If needed click to **Show all fields** in the table
   
Enter a partial or complete Filter (label) name to **Search** the table

c. Tick to select and highlight the **Customer account** filter
5) Click the **COG** to the right of the **Customer Account** filter to expand the expression box

   In the expression box type *

   a. Position the cursor in worksheet cell (E10) where the query will be inserted
   b. Click **Insert** to embed the lookup query in the host worksheet filter cell
   c. The left task pane returns to the **Data Inspector**

   Changes can be made to the lookup query from this pane
1) The query is executed and the lookup list is presented in the right task pane
2) In the right Lookup task pane, tick Allow multiple selection in the upper left
   a. Tick several Customer account numbers in the list
   b. Click the Update button in the upper right
3) Your selections will immediately be pasted into the worksheet filter cell E10
   a. The report will refresh
4) Untick Allow multiple selection and experiment
4.5 **Key points**

This chapter introduced the three **Single Cell Style** functions:

- **Value**
- **Text**
- **Lookup**

In addition to introducing these three functions, it mentioned how they can be combined in one document to build a sophisticated report.

To Summarize

- **The Value function**
  - Is used to return numeric amounts.
  - Has a field Aggregation property which can be set to SUM, or COUNT
  - Supports simple math operators on multiple fields ie: \((\text{field a} + \text{field b}), (\text{field a} - \text{field b}), (\text{field a} \times \text{field b}), (\text{field a} / \text{field b})\)

- **The Text function**
  - Is used to return data from text as well as numeric fields
  - Is often used to provide names and descriptions for input filter codes used elsewhere in a worksheet
  - Can extract and combine records for multiple fields into a single cell to form sentence like structures.
    - An example is a location query which includes City, State and Zip Code for a customer

- **The Lookup function**
  - Used to extract a range of table values and present them in the task pane
  - This provides a selection list of valid trigger alternatives to users of a report
  - Used in conjunction with the other two Atlas Single Cell queries which can be inserted in different cells in the same worksheet
    - Used to add lookup lists to cells within an upload document
      - To provide a selection list of valid alternatives when keying in data to be uploaded
  - All 3 Atlas single cell style functions can be combined in one document, along with the 4 Atlas table style functions you will learn in the next chapter
    - As well as with all 4 Atlas upload templates you can learn about in the Atlas upload class.
4.6 Quick interaction

Take a moment to write down the three key points you have learned:

1. 

2. 

3. 
5 TABLE STYLE QUERIES

5.1 Outline and Objectives

The Table Query Style uses Atlas formulas to build reports of detailed or summarized information presented across rows and columns in a table format. These formulas are created using one of two Table Functions: List or Summary. Once initially created, summary reports can be converted into one of two additional reports - Matrix or Pivot Table, using the Atlas Style Inspector. Since all Table functions use the Microsoft Office table object as the container for Atlas formulas, these tables retain all the advantages of standard excel table properties you may be familiar with.

You can combine table and single cell style functions in one document to build sophisticated reports. Table style reports can be refreshed either dynamically as one or more of the report’s filters is changed, or they can be refreshed manually by clicking Refresh within the Atlas ribbon bar.

Table style reports also make use of Calculation columns, where you can reference other columns in the same report and apply formulas to them. One of these columns is the popular Managed Column which can provide an alternative to complex table joins. When a report is refreshed, calculation columns are retained as part of the table query. Managed columns are only available in the Atlas Office Client, not the Atlas Desktop Client.

Table style reports can also be grouped into sections with subtotals and grand totals.

At the end of this chapter, you will:

- Understand how to build a List or Summary report
- Understand how to convert a Summary report into a Matrix or a Pivot Table report
  - By using the Atlas Style Inspector
- Understand the Refresh options available with Table Style queries
- Understand how you can combine Table style functions with the other Atlas functions you have learned
- Understand how to use Calculation Columns within a report
- How to use grouping with subtotals and grand totals
5.2 **List Function**

The **List** function is used to build reports of detailed information presented in a row and column format i.e. an MS Office table. Once the table is generated, you can adjust its appearance to your liking. When the report is refreshed, these appearance settings are remembered and re-applied.

List reports can include **Calculation columns**, where you can reference other columns in the same report and apply formulas to them. One of these columns is the popular Managed Column which can be built to contain a single cell formula and return data from a foreign table as an alternative to a complex table join. Calculation columns and their content are included as part of a table query. When the report is refreshed, these columns are respected and their contents retained when the size of the report expands or contracts.

List reports can be refreshed from the Atlas ribbon bar or refreshed when a cell that provides input to the List function changes. For example, if a List report is driven by a Lookup list and a user ticks a box in the list. List reports can also be grouped into sections with subtotals and grand totals.

You can link the primary data source with other data sources so that the resulting report contains information from multiple data sources. You can also join tables within a data source and use foreign fields as both report outputs and filters. These features will be discussed in a later chapter.

Use the List function when you want to:

- Run a quick draft report before deciding which Atlas function to use for the final report
- Present a list of detailed transaction records
  - Analyze raw, un-summarized data
- Take advantage of Atlas Calculation Columns
  - Calculated field
  - Managed column
  - Running balance
  - Percentage
  - Rank
- Group a list report into sections with subtotals
- Build a data input sheet for an upload template
1. To create a new **Table Style List** query for a worksheet
   a. Open the file named above
      
      Note the banner at the top of the worksheet
      
      C9 is named “Customer” (this is only a field label for D9, which will contain filter values)
   b. with the Atlas **New Object** task pane
   c. Click **Toolbox** to create a new query
   d. Enter the Title **Customer Payment Report** for the query
   e. Click to highlight the **List** function
   f. Click **Next >**
2. You are presented with the Atlas **Data Source** pane
   a. Highlight the AX2012R3 data source which contains the desired table, fields and filter(s)
   b. Click **Next >**
   c. You are presented with the Atlas **Table** pane
   d. Locate and left click the **Customer Transactions** table for your new query from the default table list in this data source
   e. Click **Next >**
1) You are presented with the Atlas **Fields** pane

   a. The selected Data source and table are listed
      The **Field(s)** you select will create columns in the report
      If needed, drag and drop to reposition fields, therefore columns

   b. Click the down arrow to **Show all fields** in the table
      Enter a partial or complete Field (label) name if needed to **Search** the table

   c. Tick to highlight and select these fields:
      **Invoice, Amount in transaction currency, and Amount settled**

   d. Right click **Amount in transaction currency** and **Rename** it to **Invoice Amount**

   e. Right click **Amount Settled** and **Rename** it to **Amount Paid**

   f. Left click the **COG** to the right of the **Invoice** field
      Then select **Ascending** from the **Order** drop down box

   g. Tick the **COG** again to close the expression box

   h. Click **Next >**
TABLE STYLE QUERIES

ATLAS 6.0 List Example.xlsx

1) You are presented with the Atlas Filters Pane
   The selected Data source and table are listed
   The filter(s) you select will be the inputs for the query
   a. Tick to highlight and select these filters:
      Customer account, Invoice, and Amount settled
      If needed click to Show all fields in the table
      Enter a partial or complete Filter (label) name to Search the table
   b. Enter the following filter values:
      Customer account ("pick" from cell) = $D$9
      Invoice > 0
      Amount settled > 0
1) Type the Customer number **US-001** in the filter cell **D9**
   a. Position the cursor in worksheet cell **(C12)** which will be the home cell for the new report
   b. Click **Insert** to embed the list query in the worksheet
   c. The left task pane returns to the **Data Inspector**

   Changes can be made to the list query from this pane
5.3 Calculation Columns

List and summary Table style functions can include between one and five types of Calculation columns. These columns are extensions to an existing report which reference other columns in the same report. Formulas can be applied to each of these columns, which will be triggered when the host query is refreshed. Calculation columns and their content are retained as part of the host query. These columns and their formulas remain elastic when the report columns in the host table expand or contract during refresh.

Calculation columns can be created in an existing Table style query, using the Data Inspector task pane along the left margin.

The five types of Calculation Columns are:

- **Calculated field** – adds a new column and allows entry of an excel formula

- **Managed columns** can contain:
  - Raw text or numeric data
  - A standard excel formula
  - A single cell style formula

- **Running balance** – cumulates incremental values in a specified column

- **Percentage** – calculates the contribution of each cell in a specified column to the column total

- **Rank** – assigns a line number to each row in a worksheet
1) Open the file listed above
   Position the cursor within the borders of the worksheet table
   Click the Data icon in the Atlas ribbon bar
   You are presented with the Atlas Data Inspector pane

2) Click the Calculation column icon in the lower right of the task pane five times

3) Right click each of these new fields and Rename them as follows:
   - Balance Due
   - Managed Col
   - Run Bal
   - Percent
   - Rank

4) Ensure the cursor is within the borders of the worksheet table
5) **Click Refresh the Query** in the upper right of the Data Inspector task pane

   Five new empty columns are added to the host list query

6) **Add the column heading notes above to F11, H11, and I11 for clarity**

7) **Next build formulas for each of the five new columns...**

---

**ATLAS 6.0 Calculation Columns Example.xlsx**
1) Double left Click the *three dots* to the right of the *Balance Due* field
2) You are presented with the Atlas *Format Column* pane
3) Click the *Calculated Field* icon at the top of the task pane
   Click the + to the left of the *Invoice Amount* field below
   Type a `-` symbol in the $Fx$ expression box
   Click the + to the left of the *Amount Paid* field below
   Click the *Create* button at the bottom of the task pane
4) You are returned to the Data Inspector pane
   Click *Refresh the Query* in the upper right
5) Adjust the excel format of column F to accounting, no decimal places
   Click *Refresh the Query* again to apply the excel formatting
1) Double left Click the **three dots** to the right of the **Managed Col** field
2) You are presented with the Atlas **Format Column** pane
3) Click the **Managed Column** icon at the top of the task pane
   
   Type the word “Comment” in the Fx expression box
   
   (Atlas will also accept raw data, excel formulas, or Atlas single cell style formulas in managed columns)
4) You are returned to the Data Inspector pane
   
   Click **Refresh the Query** in the upper right
1) Double left Click the **three dots** to the right of the Run Bal field
2) You are presented with the Atlas **Format Column** pane
3) Click the Running Balance icon at the top of the task pane
   - Click the Running balance on: drop down box and choose Invoice Amount
   - Click the Create button at the bottom of the task pane
4) You are returned to the Data Inspector pane
   - Click Refresh the Query in the upper right
5) Adjust the excel format of column H to accounting, no decimal places
   - Click Refresh the Query again to apply the excel formatting
5) Double left Click the **three dots** to the right of the **Percent** field
6) You are presented with the Atlas **Format Column** pane
7) Click the **Percent** icon at the top of the task pane
8) Click the **Percentage on** drop down box and choose **Amount Paid**
9) Click the **Create** button at the bottom of the task pane
10) You are returned to the **Data Inspector** pane
11) Click **Refresh the Query** in the upper right
12) Adjust the excel format of column I to percentage, no decimal places
13) Click **Refresh the Query** again to apply the excel formatting
ATLAS 6.0 Calculation Columns Example.xlsx

1) Double left Click the three dots to the right of the Rank field
2) You are presented with the Atlas Format Column pane
3) Click the Rank icon at the top of the task pane
   Click the Create button at the bottom of the task pane
4) You are returned to the Data Inspector pane
   Click Refresh the Query in the upper right
5) Each row is assigned a line number based on the ordering of each of the fields in the query
   If a column is re-sorted using excel (not Atlas) sort, the line numbers assigned to the original rows will be retained
A Table Style List report with 5 calculation columns

<table>
<thead>
<tr>
<th>Invoice</th>
<th>Invoice Amount</th>
<th>Amount Paid</th>
<th>Balance Due</th>
<th>Managed Col</th>
<th>Run Bal Col D</th>
<th>% of Col E</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVY-00002</td>
<td>$306,349</td>
<td>$306,349</td>
<td>-</td>
<td>-</td>
<td>$306,349</td>
<td>5%</td>
<td>1</td>
</tr>
<tr>
<td>CVY-00003</td>
<td>$306,398</td>
<td>$306,398</td>
<td>-</td>
<td>-</td>
<td>$612,737</td>
<td>5%</td>
<td>2</td>
</tr>
<tr>
<td>CVY-00004</td>
<td>$288,942</td>
<td>$288,942</td>
<td>-</td>
<td>-</td>
<td>$909,676</td>
<td>4%</td>
<td>3</td>
</tr>
<tr>
<td>CVY-00005</td>
<td>$283,291</td>
<td>$283,291</td>
<td>-</td>
<td>-</td>
<td>$1,202,971</td>
<td>4%</td>
<td>4</td>
</tr>
<tr>
<td>CVY-00011</td>
<td>$293,291</td>
<td>$293,291</td>
<td>-</td>
<td>-</td>
<td>$1,496,262</td>
<td>4%</td>
<td>5</td>
</tr>
<tr>
<td>CVY-00014</td>
<td>$283,291</td>
<td>$283,291</td>
<td>-</td>
<td>-</td>
<td>$1,789,553</td>
<td>4%</td>
<td>6</td>
</tr>
<tr>
<td>CVY-00017</td>
<td>$283,291</td>
<td>$283,291</td>
<td>-</td>
<td>-</td>
<td>$2,072,762</td>
<td>4%</td>
<td>7</td>
</tr>
<tr>
<td>CVY-00020</td>
<td>$283,291</td>
<td>$283,291</td>
<td>-</td>
<td>-</td>
<td>$2,355,970</td>
<td>4%</td>
<td>8</td>
</tr>
<tr>
<td>CVY-00024</td>
<td>$283,291</td>
<td>$283,291</td>
<td>-</td>
<td>-</td>
<td>$2,643,280</td>
<td>4%</td>
<td>9</td>
</tr>
<tr>
<td>CVY-00029</td>
<td>$283,291</td>
<td>$283,291</td>
<td>-</td>
<td>-</td>
<td>$2,935,280</td>
<td>4%</td>
<td>10</td>
</tr>
<tr>
<td>CVY-00032</td>
<td>$319,367</td>
<td>$319,367</td>
<td>-</td>
<td>-</td>
<td>$3,565,016</td>
<td>5%</td>
<td>11</td>
</tr>
<tr>
<td>CVY-00035</td>
<td>$315,520</td>
<td>$315,520</td>
<td>-</td>
<td>-</td>
<td>$3,880,536</td>
<td>5%</td>
<td>12</td>
</tr>
<tr>
<td>CVY-00037</td>
<td>$319,407</td>
<td>$319,407</td>
<td>-</td>
<td>-</td>
<td>$4,199,842</td>
<td>5%</td>
<td>13</td>
</tr>
<tr>
<td>CVY-00040</td>
<td>$319,407</td>
<td>$319,407</td>
<td>-</td>
<td>-</td>
<td>$4,519,349</td>
<td>5%</td>
<td>14</td>
</tr>
<tr>
<td>CVY-00042</td>
<td>$319,367</td>
<td>$319,367</td>
<td>-</td>
<td>-</td>
<td>$4,838,716</td>
<td>5%</td>
<td>15</td>
</tr>
<tr>
<td>CVY-00046</td>
<td>$315,520</td>
<td>$315,520</td>
<td>-</td>
<td>-</td>
<td>$5,154,385</td>
<td>5%</td>
<td>16</td>
</tr>
<tr>
<td>CVY-00049</td>
<td>$319,407</td>
<td>$319,407</td>
<td>-</td>
<td>-</td>
<td>$5,473,842</td>
<td>5%</td>
<td>17</td>
</tr>
<tr>
<td>CVY-00052</td>
<td>$319,367</td>
<td>$319,367</td>
<td>-</td>
<td>-</td>
<td>$5,793,006</td>
<td>5%</td>
<td>18</td>
</tr>
<tr>
<td>CVY-00055</td>
<td>$319,407</td>
<td>$319,407</td>
<td>-</td>
<td>-</td>
<td>$6,112,416</td>
<td>5%</td>
<td>19</td>
</tr>
<tr>
<td>CVY-00058</td>
<td>$319,407</td>
<td>$319,407</td>
<td>-</td>
<td>-</td>
<td>$6,431,822</td>
<td>5%</td>
<td>20</td>
</tr>
<tr>
<td>CVY-00061</td>
<td>$14,892</td>
<td>$14,892</td>
<td>-</td>
<td>-</td>
<td>$6,488,885</td>
<td>0%</td>
<td>21</td>
</tr>
<tr>
<td>CVY-00063</td>
<td>$347,983</td>
<td>$347,983</td>
<td>-</td>
<td>-</td>
<td>$6,784,648</td>
<td>5%</td>
<td>22</td>
</tr>
<tr>
<td>CVY-00065</td>
<td>$254,792</td>
<td>$2,178</td>
<td>-</td>
<td>-</td>
<td>$7,151,818</td>
<td>0%</td>
<td>23</td>
</tr>
</tbody>
</table>

ATLAS 6.0 Calculation Columns Completed.xlsx
5.4 **Summary Function**

The **Summary** function is used to build reports of aggregated information presented in a row and column format i.e. an MS Office table. This aggregation is built into the summary formula so it is not appropriate for use when a report is intended to present information for intricate analysis. Once the table is generated, you can adjust its appearance to your liking. When the report is refreshed, these appearance settings are remembered and re-applied.

Summary reports can be refreshed from the Atlas ribbon bar or refreshed when a cell that provides input to the function changes. For example, if a Summary report is driven by a Lookup list and a user ticks a box in the list. Summary reports can also be grouped into sections with subtotals and grand totals.

Summary reports can include **Calculation columns**, where you can reference other columns in the same report and apply formulas to them. These features were explained and demonstrated in the previous section of this chapter.

You can link the primary data source with other data sources so that the resulting report contains information from multiple data sources. You can also join tables within a data source and use foreign fields as both report outputs and input filters. These features will be discussed in a later chapter.

Use the Summary function when you want to:

- Present overviews of high level information for example
  - Summarized Receivable Balances by Customer Group
  - Overview of Purchase Commitments by Vendor Group
- Take advantage of Atlas Calculation Columns
  - Calculated field
  - Managed column
  - Running balance
  - Percentage
  - Rank
- Group a summary report into sections with subtotals
- Build an Atlas Summary Query into an MS Office PowerPoint presentation
  - Refresh a slide with live data during the presentation
  - Drill down from the slide to a live data source during the presentation
- Note: An Atlas Desktop Presentation is an enhanced alternative to an Atlas PowerPoint presentation
  - Numerous interactive and interdependent pages and panes, drill downs, charts, graphs, formatting...
1) To create a new **Table Style Summary** query for a worksheet

   a. Open the file named above
      
      Create a banner at the top of the worksheet
      
      Name cell C9 “Customer”
      
      Name cell C10 “Date”

   b. Place the cursor in the cell of the worksheet where the query will be inserted

   c. Click the **New** icon within the **Insert** group in the Ribbon bar

   d. You are presented with the Atlas **New Object** task pane

   e. Click **Toolbox** to create a new query

   f. Enter the Title **Sales Order Invoicing Report** for the query

   g. Click to highlight the **Table Summary** function

   h. Click **Next >**
1) You are presented with the Atlas Data Source pane
   a. Highlight the AX2012R3 data source which contains the desired table, fields and filter(s)
   b. Click Next >
   c. You are presented with the Atlas Table pane
   d. Locate and left click the Customer Invoice Journal table for your new query from the default table list in this data source
   e. Click Next >
ATLAS 6.0 Summary Example.xlsx

1) You are presented with the Atlas Fields pane
   
   The selected Data source and table are listed
   
   The Field(s) you select will create columns in the report
   
   If needed, drag and drop to reposition fields, therefore columns

   a. Click the down arrow to Show all fields in the table
      
      Enter a partial or complete Field (label) name if needed to Search the table

   b. Tick to highlight, select these fields, and position them in this order:
      
      **Sales Order, Date, Invoice Amount**
      
      Left click the COG to the right of the **Date** field
      
      Then select **Ascending** from the **Order** drop down box

   c. Tick the **COG** again to close the expression box

   d. Click **Next >**
1) You are presented with the Atlas Filters Pane
   The selected Data source and table are listed
   The filter(s) you select will be the inputs for the query

2) Tick to highlight and select these filters:
   **Customer account**, and **Date**
   If needed click to **Show all fields** in the table
   Enter a partial or complete Filter (label) name to **Search** the table

3) Enter the following filter values:
   **Customer account** ("pick" from cell) = $D$9
   **Date** ("pick" from cell) = $D$10
1) Type the Customer number **US-001** in the filter cell **D9**
   a. Type the Date range **01/01/2012..12/31/2012** in the filter cell **D10**
   b. Position the cursor in worksheet cell (C12) which will be the home cell for the new report
   c. Click **Insert** to embed the summary query in the worksheet

b. The left task pane returns to the **Data Inspector**
   - Set the excel format for the **Invoice Amount** column to Accounting, no decimals
   - Click **Refresh the Query** button in the upper right of the task pane
   - Further changes can be made to the summary query from this pane
Difference between List and Summary functions

Aggregation is built into the summary formula

Atlas examples above use the same table, fields and input filters

The List report displays invoice and voucher detail

The Summary report aggregates invoice and voucher detail
5.5 Grouping

1. To apply **grouping** to a field in an existing Table Style Summary report
   a. Open the file listed above
   b. Position the cursor within the body of the table in the worksheet
   c. Click the **Data** icon from the **Inspector** group to open the Data Inspector pane
      
      Click **+ Add More** to expand the field view
   d. Tick to select **Order Account**
      
      Drag it to the top of the field list in the task pane
   e. Change the filter range in cell **D9** to **US-001..US-002**
   f. Click **Refresh the Query** in the upper right of the task pane
   g. The additional column and **US-002** data is added to the report

ATLAS 6.0 Grouping Example.xlsx
1) Ensure the cursor is positioned in the body of the table in the worksheet
   a. Click the **Style** icon from the **Inspector** group in the Atlas ribbon bar
      The **Summary** box will be highlighted
   b. Click **Grid Options** in the upper right of the task pane
   c. Drag and drop the **Customer account** field up into the **Group by** space
   d. Click the **COG** to the right of **Invoice Amount**
      Set **Total Aggregation** to **Sum**
      Set **Total up to group** to **Customer Account**
   e. Ensure the excel cell properties for the **Invoice Amount** column are set to accounting, 2 decimal places
   f. Click **Refresh the Query** in the upper right of the task pane
   g. The Summary report is divided into **groups**, by **Customer account**
      **Subtotals** and the **Grand Total** are displayed
5.6 Matrix Function

The Matrix function is nearly identical to the Summary function described previously, except it contains rows that are promoted to columns. Aggregated information is again presented within an MS Office table created in the document. Once the table is generated, you can adjust its appearance to your liking. When the report is refreshed, these appearance settings are remembered and re-applied.

Matrix reports can be refreshed from the Atlas ribbon bar or refreshed when a cell that provides input to the function changes. Atlas Grouping and Calculation columns are not appropriate in the layout of a matrix report. These features were explained and demonstrated in previous sections of this chapter.

You can link the primary data source with other data sources so that the resulting report contains information from multiple data sources. You can also join tables within a data source and use foreign fields as both report outputs and input filters. These features will be discussed in a later chapter.

Use the Matrix function when you want to:

- Convert detailed information from a transaction table into a summary presentation
  - Transpose and summarize row information into columns
  - Greatly improve readability
- Provide a report that can be manipulated to form the basis of an upload.
  - For example, a matrix report displays a forecast for 12 months
  - Report is used as a data input worksheet to revise monthly forecast values
  - Revised report is mapped to an Atlas template to upload forecast changes
- Build an Atlas Matrix Query into an MS Office PowerPoint presentation
  - Refresh a slide with live data during the presentation
  - Drill down from the slide to a live data source during the presentation
- Note: An Atlas Desktop Presentation is an enhanced alternative to an Atlas PowerPoint presentation
  - Numerous interactive and interdependent pages and panes, drill downs, charts, graphs, formatting...
Matrix report transformed from a Summary Report

1. To create a Matrix report from an existing Summary report
   a. Open the file named ATLAS 6.0 Matrix Example
      Position the cursor within the body of the table in the worksheet
      Change the Date filter range in cell D10 to 01/01/2012..04/30/2012
      Click Refresh the Query in the upper right of the task pane
   b. Click the Style icon from the Inspector group in the Atlas ribbon bar
      The Summary box will be highlighted - Click the Matrix box
   c. Click Matrix Options in the upper right of the task pane
      Drag and drop the Date field down into the Column Hierarchy space
   d. Ensure the cursor is within the body of the table in the worksheet
      Click Refresh the Query in the upper right of the task pane
      The Date field is transposed to a column heading
      The Invoice amounts are spread across the Date columns
   e. Set the excel cell properties for the new Date columns to accounting, 2 decimal places
      Click Refresh the Query in the upper right of the task pane
5.7 **Pivot Tables in Atlas 6.0**

With the introduction of the Atlas Desktop there are large number of presentation and analysis options available beyond pivot tables. However, if you wish to continue using them and your pivot tables cannot be otherwise connected to a live data source, an Atlas summary report can be used. Highlight the Atlas report table in excel, then choose Insert pivot table. The excel pivot table is then connected to the Atlas summary report, and in turn to its data source.

The Atlas summary report can be configured to provide different data source connections through the Atlas Office Client as explained earlier. By association the pivot table can be connected to them also. In addition, data from multiple sources can be merged, multiple tables joined, and the results passed to the pivot table. On its own the Atlas summary report can provide numerous sidebar drill downs and links to Atlas Desktop presentations which are not visible from the pivot table. (These features will be discussed in later chapters).

**Creation**

An Atlas summary report can be created on one sheet and used to insert an Excel pivot table into a separate sheet in the same workbook.

The summary report extracts information from the data source and passes it to the pivot table.

**Refresh**

The summary report can be refreshed from the Atlas ribbon bar or refreshed when its filter cell(s) changes.

The linked pivot table can be manually refreshed using excel.

This keeps both sheets in synch with the underlying data source(s).

**Analysis**

Excel pivot table quadrants are available within the pivot table sheet.

Summary analysis can be conducted within the Atlas summary sheet.

Sidebar drill downs and links to Atlas Desktop presentations from the Atlas summary sheet are available

**A Pivot Table Example follows**
1) Open the file named above

   a. Position the cursor within the body of the table
      Open the Data Inspector task pane
      Notice the Atlas summary report is connected to data source AX2012R3

   b. Click the Drill Down button from the Atlas ribbon bar
      Note the Sales Order Line details in the drill down task pane
      Click different sales orders in the summary report and note the drill down refreshes in response

   c. Click to open the Dashboard Pop Up from the drill down viewer
      Note there is second presentation page (Sales Orders by Customer)
      Change the Customer in the summary report to US-002
      Note all three Atlas views refresh

   d. Highlight the outline of the table in the worksheet with the cursor

   e. Click the Insert tab from the standard excel tab (not the Atlas 6.0 tab)
1) Click the excel create **Pivot Table** icon
   a. Choose to place the pivot table in a **New Worksheet**
      Excel creates a new sheet and tab for you
   b. Position the fields among the **pivot table quadrants** as illustrated above
   c. Switch to the Atlas worksheet, change the **Customer** to **US-003**
      Note all three Atlas views refresh
   d. Switch back to the pivot worksheet, click the excel **Data** tab
      Then click the excel **Refresh** icon
   e. The pivot table now displays information for Customer **US-003**

The summary, drill down, presentation, and pivot queries can be collectively saved and re-executed from within this one file
5.8 Key points

This chapter introduced the two main Table Style functions:

- List
- Summary

You learned that Summary reports can be optionally converted into one of two additional reports - Matrix or Pivot Table, using the Atlas Style Inspector. These functions can be combined with Atlas Single Cell style functions in one document to build sophisticated reports. The Microsoft Office table object is the container for Atlas formulas, therefore excel table properties can be used. Reports can be refreshed as a built in filter is changed, or manually by clicking Refresh.

To Summarize:

- The List function can include detailed transactions for intricate analysis
- The Summary function can support overviews, management presentations
- The Matrix Style is typically a Summary report with a transposed row to improve readability
- To refresh a Pivot table from a live data source
  - First connect a Summary report to the data source
  - Then connect a Pivot table to the summary report

**Calculation columns** can reference other columns in the same report and apply formulas to them:

- **Calculated field**
- **Managed column**
- **Running balance**
- **Percentage**
- **Rank**

The Atlas Style inspector can be used to assign field properties which include:

- **Aggregation** - Sum, Count
- **Sort** – Ascending, Descending
- **Grouping** – Subtotals, Grand Totals
5.9 Quick interaction

Take a moment to write down the three key points you have learned:

1. 

2. 

3. 

6 DRILLING DOWN WITH ATLAS 6

6.1 Outline and Objectives

The Atlas 6.0 Drill down functionality uses objects created within the Atlas Desktop to explore supplemental information for a primary report. These objects can include presentations, pages, and panes which in turn can contain report and/or visualization queries. These Atlas Desktop objects can be applied to an Office document such as a worksheet in order to enable unlimited drill down to tables and fields in one or many data sources.

Drill down information is displayed in the Atlas drill down viewer presented along the right hand margin of a worksheet. The viewer can contain one or many pages of presentation information, and each page can be arranged into multiple panes each containing a separate query (report). One or more of these panes can optionally contain a visualization query (chart or graph). If there are multiple drill down pages, they will be stacked at the bottom of the drill down viewer. Each page and each pane can reference a separate cell in the host worksheet so when the user selects different cells, the drill down pages and panes will refresh. A page and/or pane can also be configured to provide fixed drill down information.

A user can optionally navigate directly from the drill down viewer into the Atlas Desktop Client to view additional presentation pages, panes, and visualizations which further substantiate the information in the host worksheet. The user also has the option of enabling drill down Interactivity within one or many presentation queries, which allows grouping, sorting, and adjusting drill down columns and totals for further analysis on the fly.

By the end of this chapter you will understand:

- The basic components of an Atlas Desktop presentation
- How to setup row and column drill down basis for a worksheet
- How to apply Atlas presentation objects to a drill down
- How queries govern what is displayed in the drill down viewer
- How to access additional Atlas presentation information from the drill down viewer
- How to use Interactivity to group, sort, and adjust drill down columns and totals on the fly
6.2 Drill Down Overview

1. If a worksheet contains drill down(s), they can be viewed in the drill down viewer
   a. Position the cursor in the host worksheet cell you wish to drill into
      Click Drill down from the Atlas ribbon bar to refresh the Atlas drill down task pane
      NOTE: within this OVERVIEW page there are three separate panes:
         CUSTOMER
         BALANCE
         ITEMS PURCHASED
   b. Re-position the cursor on different cells in the Customer Account column in the host worksheet
      The Drill down page as well as the panes refresh
   c. Many pages each with their own panes can be displayed within the drill down viewer
      Multiple pages will be “stacked” at the bottom of the drill down viewer

To setup drill down for an excel worksheet follow these steps
6.3 Atlas Presentation Basics

Atlas Desktop Client / Workspace: Training / Presentation: “Customer Inquiry”

1. Atlas 6.0 was designed to enable drill down through the creation of presentation objects within the Atlas Desktop such as Presentations, pages, and panes which can optionally contain one or all of these types of pre-built snippets to speed up the design process:

   - Query snippets (reports)
   - Visualization snippets (charts, graphs)
   - Drill down snippets (sidebar reports)
   - Upload snippets (templates)
   - Batch snippets (multiple templates)

   “Snippets” will be explained in chapter 7. Note: it is possible to apply a drill down snippet to a worksheet without pre-creating a presentation page. In this case the drill down will be limited to only the query(s) in the snippet.

2. Presentations and snippets are stored in Workspaces

3. In the example above:

   The Workspace is called Training
   The Presentation is titled “Customer Inquiry”
   There are four pages: OVERVIEW, DASHBOARD, INVOICES, ACCOUNT STATEMENT
   Each page contains several panes
   Each pane contains either a query or a visualization, and could contain all 5

In the upcoming example we will use pre-built pages and panes
6.4 **Row and Column Drill Down**

1. Before presentation objects can be selected for drill down the **Drill down basis** must be chosen.

   Position the cursor within the table in the worksheet
   Click **Drill down** from the Atlas ribbon bar
   Click + in the upper right of the Drill down viewer
   Select the drill basis within this task pane

2. There are 3 drill down basis options,

   - **Row** based
   - **Column** based
   - A combination of **Row** and **Column** based

Atlas 6.0 Drill Down None Example.xlsx
1. To select Row based drill down
   a. Highlight the report name at the top of the task pane
      
      Click Next >
      
      Ensure the Training workspace is chosen from the drop down list
      
      Ensure the Presentation button is active
   b. Highlight the Customer Inquiry Presentation
      
      Click Apply in the lower left of the task pane
      
      Position the cursor anywhere in the worksheet
      
      The Sidebar page from the presentation is refreshed
      
      If multiple sidebar pages are included in the presentation, they will be stacked at the bottom of the drill down viewer

2. Considerations:
   a. Only one presentation can be attached
      
      Presentation type must be sidebar
   b. All cells in the host worksheet will reference this presentation
   c. Presentation must contain at least one sidebar page
      
      Page filters must map to host cells to be refreshable
      
      If not a Missing References error is displayed
      
      Parameter values can be temporarily entered using +add missing references
   d. A sidebar page may optionally be configured to provide fixed information
3. To select **Column based drill down**
   
a. **Highlight** the column name **Group** from the field list in the task pane
   
   Click **Next >**
   
   Ensure the **Training** workspace is chosen from the drop down list
   
   Ensure the **Presentation** button is active
   
   b. **Highlight** the **Group Presentation**
   
   Click **Apply** in the lower left of the task pane
   
   Position the cursor in the **Group** column in the worksheet
   
   The **Sidebar pages** from the presentation are refreshed, and stacked at the bottom of the drill down viewer

4. **Considerations:**
   
a. One or many **presentations** and/or **pages** can be attached to different host cells

   **Presentation types** must be **sidebar**

b. Each host cell references its own specific drill down view

   The same or different presentations and/or pages can be **Applied** to each host cell

c. Presentations must contain at least one **sidebar page**

   Page filters must map to host cells to be refreshable

   If not a **Missing References error** is displayed

   **Parameter** values can be temporarily entered using **+add missing references**

d. A sidebar page may optionally be configured to provide fixed information
5. To combine both Row and Column based drill down
   a. Follow the previous instructions for setting up Row based drill down
      Highlight the report name at the top of the task pane
      Select and Apply the presentation named Customer Inquiry
   b. Follow the previous instructions for setting up Column based drill down
      Highlight the column name Group from the field list in the task pane
      Select and Apply the presentation named Group
      Highlight the column name Credit Rating from the field list in the task pane
      Select and Apply the presentation named Credit Rating
   c. After applying presentations to the host worksheet
      Click the + in the upper right of the task pane to return to the Add Drill down viewer
      Note: Atlas displays “In Use” drill down indicators for overall rows, and unique drill downs for 2 columns

Results:

Column-based drill downs will refresh their respective query(s)
Row-based drill downs will refresh the one remaining query
6.5 Drilling Down, Presentation Access, Interactivity

Drill down

Atlas 6.0 Drill Down Column Completed.xlsx

1. To view the column based drill down created earlier,
   a. In the Group column of the worksheet, click 10
      - Click Drill down from the Atlas ribbon bar to refresh the Atlas drill down task pane
      - Toggle between the Balances and Margins pages in the viewer
        - The pages refresh automatically
   b. In the Group column of the worksheet, click 30
      - The Balances and the Margins pages in the viewer refresh accordingly

Drill down from the group column in the host worksheet continued...
1. **All of the pages** in the attached presentation can be viewed from the drill down viewer

2. Click the **Dashboard Pop Up** button in the drill down viewer

   The **Atlas Desktop Client** appears

   The presentation named **Group** is displayed

3. There are four presentation **pages** with corresponding **tabs** in the ribbon area

   **BALANCES, MARGINS** – these are the sidebar pages presented in the drill down viewer

   **Transaction History, Margin Performance** – dashboard pages are visible from the drill down viewer via the “Dashboard Pop Up” button

4. Double click the page to expand it for viewing
Continued from the previous group column drill down, remain within the Atlas Desktop...

Atlas 6.0 Drill Down Column Completed.xlsx

1. To enable **Interactivity** (on the fly query changes for immediately analysis) within any presentation page
   a. Ensure you are viewing the presentation called **Group**
   b. Click the **Transaction History** tab to open this page

2. Position the cursor within the body of the report
   a. Click the Atlas **Style Inspector** from the Atlas ribbon bar
   b. In the left task pane click the **Grid Options** button
   c. Under **Enable Changes** click the **Interactive** field (it turns green)
   d. Click the **Refresh** query icon, a blue ribbon appears at the top of this dashboard report page
   e. To make “on the fly” customizations to the query in this page
      i. Drag and drop column headings into the blue ribbon area to group them
      ii. Drag and drop column headings right or left
      iii. Left click a single column heading to sort ascending / descending
      iv. Click the symbol beside any numeric column heading and choose one or more totaling options for that column

3. If you wish to save these “on the fly” customizations in a workspace for future use
   a. Click the **Save The Query as a Snippet** button in the upper right of the **Style Inspector**

**Presentation Pages and panes can also be built to be interdependent.** For example the output of one page or pane can be an input to the next. Refreshing the host triggers refresh of subordinate(s).
6.6 **Key points**

This chapter explained the Atlas 6.0 Drill down functionality. Atlas presentations, pages, and panes created in the Atlas Desktop can be applied to an Office document such as a worksheet in order to enable unlimited drill down to tables and fields in one or many data sources.

You learned that

- Drill down information is displayed in the Atlas drill down viewer
- The viewer can contain one or many pages of presentation information
- Each page can be arranged into multiple panes
- Each pane can contain a separate query (report)
- Any of these panes can contain a visualization query (chart or graph)
- Multiple drill down pages are stacked at the bottom of the drill down viewer
- Each page and each pane can reference a separate cell in the host worksheet
  - When a different cell is clicked the drill down refreshes accordingly
- A page and/or pane can also be configured to provide fixed drill down

You also learned

- There is direct access from the Atlas drill down viewer into the Atlas Desktop
  - Additional presentation pages, panes, and visualizations help explain information presented in the host worksheet
- The user has the option of enabling drill down Interactivity within any presentation page or pane
  - This allows grouping, sorting, and selection of numeric column totaling options for custom analysis on the fly
  - An “on the fly” customization to a drill down query can be saved as a new snippet in a designated workspace, for future use.
- Atlas Desktop Presentation Pages and Panes can be built to be interdependent
6.7 Quick interaction

Take a moment to write down the three key points you have learned:

1. 

2. 

3. 
JOINING AND MERGING TABLES

7 JOINING AND MERGING TABLES

7.1 Outline and Objectives

When creating queries for reports, visualizations, and/or drill downs, business objectives often require data be retrieved from multiple tables in one or many data sources. To compound the business objectives complex data sources often have data spread across multiple tables. Therefore an Atlas designer must be familiar with the data models in each data source before deciding if and how a table join or merge is to be accomplished. Remember Atlas 6 will read data sources which could consist of one or many AX and/or CRM instances, any SQL cubes, and/or any SQL data bases.

This chapter illustrates four join techniques available to obtain field data from a foreign table within one data source and include it in an Atlas query. These are Field Join, Relation Join, Manual Field Join, and Single Cell Managed Column. Joins can be created in order to select foreign fields as well as foreign filters for a query.

In addition to these four join techniques, the Atlas Merge feature can be used to obtain data from tables in a foreign data source. For example, one report could consist of multiple columns, each of which contains field data from a different data source. Atlas queries and templates can be built into the same document which will extract information from one or many data sources, allow data modifications, and upload the revised data set to one or many data sources. (Upload is covered in a separate class).

Join and Merge can be used with any of the Atlas query functions you have learned, as well as upload templates which are covered in the Atlas Upload class. Once configured and saved in a query, joined and merged tables and fields become a permanent part of that query or template until it is changed or deleted as any other file.

At the end of this chapter, you will understand

- The definition of Field Join and how to create one
- The definition of Relation Join and how to create one
- The definition of Manual Field Join and how to create one
- How to use Single Cell Managed Column to extract foreign table data
- How to use Merge to obtain data from a foreign data source
### 7.2 Joining Tables within a Data Source

Use these join techniques to obtain field data from a *foreign table in the same data source* and include it in an Atlas query. Joins can be created in order to select foreign fields as well as foreign filters for a query. General descriptions of the join techniques are below, with a detailed example of each on the pages which follow:

1) **Field join:**
   a. Designer must study the data model and identify the primary *field which is the basis of the join* to the foreign table
   b. Click this **field** to perform the join
   c. Select the desired field(s) from the foreign table for inclusion in the query

2) **Relation join:** (A relation is an AX naming convention which identifies which primary table is joined to which foreign table. Different relations may point one primary table to different foreign tables)
   a. Designer must study the data model and identify the *relation which is the basis of the join* to the foreign table
   b. Choose this **relation** to perform the join
   c. Select the desired field(s) from the foreign table for inclusion in the query

3) **Manual Field Join** (when no field or relation join exists in the AX AOT)
   a. This technique involves modification of an existing query to merge foreign field data
   b. Designer must study the data model and identify both the *primary and foreign fields which are the basis of the join* to the foreign table
   c. Use the **Atlas Link Data** and **Merge** features to perform the join
   d. Select the desired field(s) from the foreign table for inclusion in the query

4) **Single cell** in a **managed column** (an alternative to **Manual Field Join** - when no field or relation join exists in the AOT)
   a. This technique is not a join per se...but it useful when any of the first 3 techniques are not available, or prove too complex
   b. It uses an Atlas single cell formula in a managed column to obtain foreign field data
   c. Designer must study the data model and identify the desired foreign table and field
   d. See the discussion on **Calculation Columns** / **Managed column** in Chapter 5 - Table Style / List Function earlier in this guide)
1) To create a **Field join**:

   a. Open a new worksheet

   b. Choose the List function

   c. Choose AX as the data source
      - In the Table pane highlight **VendTable**
      - In the Fields pane tick **Vendor account**

   d. Scroll down and click the 3 dots to the right of the **Cash Discount** field
      The **Vendors** table is now joined to the **Cash Discount** table

   e. Tick these 3 foreign fields
      - **Discount percentage**
      - **Months**
      - **Days**

   f. Click **Insert**
      One primary field and three foreign fields are returned to the report
2) To create a Relation join:

   a. Open a new worksheet

   b. Choose the List function

   c. Choose AX as the data source
      In the Table pane highlight VendTable
      In the Fields pane tick Vendor account

   d. Double left click the link icon in the upper right of Fields pane
      Ensure the Relations button is clicked

   e. Click the 3 dots to the right of the relation named “CashDisc”
      The Vendors table is now joined to the Cash Discount table

   f. Tick these 3 foreign fields
      Discount percentage
      Months
      Days

   g. Click Insert
      One primary field and three foreign fields are returned to the report
3) **To create Manual Field Joins** (when no field or relation joins exist in the AOT)

   a. Create a new list report, choose AX data source, VendTable
      Add Vendor Account and Cash Discount Fields
      Add Vendor Account Filter = 55*

   b. Navigate to the **Data Inspector**
      Click the **Data** button
      Click **Merge Data**

   c. From the **Data source** pane double click the AX data source

   d. From the **Table** pane double click the foreign table **Cash Discount**

   e. From the **Fields** pane tick to select the foreign field **Cash Discount**

   f. Click the **Link Data** drop down box
      Choose the primary field **Cash discount**
      Choose the foreign field **Cash discount**

   g. Click **Next** to open the **Filters** pane
      Click **Merge** to join the **Vendors table** to the **Cash Discount table** and re-open the **Data Inspector**

   h. Un-tick (don’t remove) the **Cash Discount** field in both tables
      Below the **Cash Discount Table** click **+Add More**
      Tick to add these 3 foreign fields
      **Discount percentage**
      **Months**
      **Days**

   i. Click **Refresh the Query** in the upper right of the **Data Inspector**

      One primary field and three foreign fields are returned to the report
4) To obtain foreign field data using Atlas Single cell formulas (an alternative to Manual Field Join - when no field or relation join exists in the AOT)

a. Open the file listed above

b. Open the Data Inspector

c. Notice three empty Calculation columns have been added to a list report

d. The Calculation columns have been renamed

<table>
<thead>
<tr>
<th>Discount percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Months</td>
</tr>
<tr>
<td>Days</td>
</tr>
</tbody>
</table>

e. Click the 3 dots to the left of each of the three calculated columns

f. Note in the Format Column pane all three fields are set to Managed Column

Continued...
g. Position the cursor in cell F11 and choose + New from the ribbon bar
   Double click Single cell Text
   Double click the AX Data source
   Double click the Cash Discount Table

h. Tick Discount Percentage in the Fields pane
   Click Next

i. Tick Cash Discount in the Filters pane
   Pick from cell E11 and change syntax to $E11
   Click Insert, then drag and drop the formula down the column

j. Copy and paste cells F11..F20 to G11..G20
   Position the cursor on cell G20
   Open the Data Inspector pane, click the Data button
   Delete Percentage, click + Add More
   Add the Months field
   Click Refresh the Query

k. Copy and paste cells F11..F20 to H11..H20
   Position the cursor on cell H20
   Open the Data Inspector pane, click the Data button
   Delete Percentage, click + Add More
   Add the Days field
   Click Refresh the Query

Results: The foreign field data for Discount Percentage, Months, and Days is extracted from the foreign table Cash Discount by the single cell text formulas
7.3 Merging Tables across Data Sources

The Atlas Merge feature is designed to obtain data from a foreign data source, in addition to a foreign table in the same data source as explained in the previous discussion on manual table joins. The designer must study data models in both data sources and identify the primary and foreign fields which form the basis of the join.

1) To examine the use of Merge data, open the file listed above

a. Open the Data Inspector (notice the primary data source is AX2012R3) and click Merge Data in the lower left

b. From the Data source pane double click Sales Cube OLAP 2012

c. From the Table pane double click Customer invoice lines

d. From the Fields pane search and tick to select Customer - invoice account.Customer
   Click the Link Data drop down box
   Choose the primary field Customer account
   Choose the foreign field Customer - invoice account.Customer

e. Click Next to open the Filters, but do not select any

   A separate value may be applied to a merged foreign filter, but we will not do so in this example.

f. Click Merge to join AX2012R3 to Sales Cube OLAP 2012 and re-open the Data Inspector
   Un-tick (don’t remove) Customer - invoice account.Customer
   Below the Customer invoice lines table click +Add More
   Tick to add the fields Customer contribution margin – accounting currency
   and Customer invoice line amount – accounting currency

g. Click Refresh the Query in the upper right of the Data Inspector to return the two fields from Sales Cube OLAP 2012
7.4 **Key points**

This chapter introduced the concept of joining and merging tables and fields from one or many data sources, in order to create queries for reports, visualizations, and/or drill downs. An Atlas designer must be familiar with the data models in each data source before deciding if and how a table join or merge is to be accomplished.

Points to remember:

- Atlas 6 will read one or many
  - AX and/or CRM instances
  - SQL cubes
  - SQL databases
- Four join techniques
  - **Field**
  - **Relation**
  - **Manual Field**
  - **Single Cell Managed Column**
- Joins can be created in order to select both fields and input filters for a query.
- **Merge** can obtain data from foreign data sources
- **Join** and **Merge** can be used with any of the seven Atlas query functions you have learned
- Joined and merged tables and fields become part of a query
- Joined tables can also be built into upload templates
## 7.5 Quick interaction

Take a moment to write down the three key points you have learned:

1. 

2. 

3. 
8 MAINTAINING QUERIES AND SNIPPETS

8.1 Outline and Objectives

As you have been learning, Atlas instructions for creating reports, visualizations, sidebar reports, and upload templates and batches can be inserted into an MS Office document and/or an Atlas presentation. These instructions can include data sources, tables, joins, merges, fields, filters, values, and properties. In the process of creating these sets of instructions an Atlas designer has the option of saving them as Snippets in an Atlas Workspace. 5 types of snippets can be saved when using any of the Atlas functions:

Value, Text, Lookup, List, Summary, Matrix reporting functions:
- Query snippets (reports)
- Visualization snippets (charts, graphs)
- Drill down snippets (sidebar reports)

Append, Update, Find and Replace, Journal upload functions:
- Upload snippets (templates)
- Batch snippets (multiple templates)

Saved snippets are available for re-use across other MS office documents and/or Atlas Desktop presentation pages and/or panes. All snippets are private that is they can only be accessed via the originating Atlas designer’s credentials. Snippets can be copied, edited and moved like any other file.

Saved snippets are used when you want to:

- Make a query portable in your organization
- Re-use a query as a component in different documents or presentations
- Provide re-useable instructions to a user who only has a standard license (they cannot build Atlas documents, only run them)
- Mask the complexities of building a query from users to avoid potential errors

At the end of this chapter, you will be able to:

- Create a new workspace and subfolders for saved snippets
- Understand the five snippet types
- Save a snippet after creating a new document or presentation page
- Save a snippet when **changing** an existing document or presentation page
- Create a **new snippet from scratch** and save it
- Use a **saved** query or visualization **snippet** in a **new document**
- Use a saved drill down snippet in a new **sidebar presentation page**
- Use the **Manage Atlas Functions** tool to disconnect formulas in a worksheet
8.2 Saving and Re-Using Snippets

ATLAS Desktop client / All Presentations / Manage Workspaces

1) Saved snippets are stored in **Workspace Folders** or **subfolders**

   Navigate to **Manage Workspaces**

   The number of **Snippets** in a workspace is displayed

   Click **Browse** to view snippet folders in the network

   a. To enter a **New workspace** use the form above

      Snippets must later be selected from these workspaces when building new documents (Atlas Office Client) and/or presentation pages and panes (Atlas Desktop Client)

      **Workspaces can be Duplicated** and/or **Deleted**

   c. **Snippets**

      Can be used repeatedly to speed up the design process

      Can be shared with all presentations in the same workspace but not across workspaces
MAINTAINING QUERIES AND SNIPPETS

SNIPPETS IN THE ATLAS OFFICE CLIENT – NEW WORKSHEET

1) The Atlas ribbon bar and all its functions are fully available in the Atlas Desktop client

2) All 5 snippet types can be shared between the Office and the Desktop clients when building

   Queries and Templates in the Office Client
   Presentation Pages and Panes in the Desktop Client

3) Snippets can contain queries, visualizations, and drill downs

   Presented for selection in the left task pane

4) Snippets can also contain templates and batches (explained in the Atlas upload class)

   Presented for selection in the right task pane

---

A snippet can contain both a query and a template. When saving a query snippet there is an option to save an in document template along with it.
ATLAS 6.0 New Saved Snippet Example.xlsx

1) To save a query, visualization or drill down snippet after creating a new query in a worksheet
   a. Open the above file
   b. Position the cursor in the document
   c. Open the Data Inspector
   d. Click Save the Query as a Snippet
      Assign the Snippet name of Customer Location Snippet
      Select a Workspace from the drop down list
      Optionally create a subfolder in the workspace
   e. The snippet can be used later for another report, visualization, or drill down
   f. Close the worksheet without saving it
To save a query, visualization or drill down snippet when modifying an in document query

a. Open the above file
b. Position the cursor within the table in the worksheet
c. Open the Data Inspector
d. Modify as required:
   
   **Table Joins / Merges**  
   **Fields / Properties**  
   **Filters / Values**  

d. Click the **Refresh the Query** icon to insert the modifications into the worksheet
e. From the Data Inspector click **Save the Query as a Snippet**
   
   Assign the **Snippet name** of **Sales Order Invoicing Snippet**
   Select a **Workspace** from the drop down list
   Optionally create a **subfolder** in the workspace
f. The snippet can be used later for another report, visualization, or drill down
g. To retain embedded changes, save the office worksheet
   Otherwise close the worksheet without saving it
3) To **insert** a copy of an existing saved **query** or **visualization snippet** into a new worksheet

   a. Open a new worksheet
   b. Click the **Snippets** Icon in the Atlas Ribbon Bar
   c. Select a **workspace** from the drop down list
   d. Type a partial search name in the **Search snippets** field.
   e. Atlas returns lists of snippets containing the partial search name
     
     **In file names** AND
     **In** the primary **table names** used to build the snippet
     
   f. Choose the snippet named **Customer Credit Limits with Upload**
     Ensure the desired snippet **filter(s) and value(s)** are mapped to a cell in the worksheet if necessary
   g. **Drag and Drop** the chosen snippet into the worksheet
5) To insert a copy of a saved drill down snippet into a new presentation sidebar page

a. Open the Atlas Desktop Client

b. Create a new presentation and add a sidebar page

c. Click the Snippets Icon in the Atlas Ribbon Bar

d. Type a partial search name in Search snippets field.

e. Atlas returns lists of snippets containing the partial search name across all workspaces

   In file names AND
   In the primary table names used to build the snippet

f. Choose the snippet named Query Snippet

   Ensure the desired snippet filter(s) and value(s) are referenced in the presentation page if desired

g. Drag and Drop the chosen snippet into the sidebar page

This sidebar page can now be applied to an excel worksheet and viewed in the drill down viewer
1) Snippets will retain Atlas properties and excel formats added by an Atlas designer. To begin,
   a. Open the file above containing an in-document query

2) Position the cursor within the table in the worksheet
   a. Open the Atlas Style Inspector pane
   b. Click the Grid Options button
   c. Toggle the Interactive switch to “On” (green)
   d. Click in the upper right of the Style Inspector to Refresh the query
   e. Above and below Output columns you have these options

   Group by
   Choose Ascending for the Customer account field > Sort
   Aggregation
   Total Aggregation

3) Using standard excel commands
   a. Add standard excel charts
   b. Change cell formats
   c. Change table color scheme (Table tools / Design tab)

4) From the Style Inspector click Save the Query as a Snippet
   a. Assign a new Snippet name
   b. Select a Workspace from the drop down list, click Save
8.3 The Manage Atlas Functions Command

1) Atlas worksheets can be shared with non-Atlas users by using the Manage Atlas Functions command

   a. All Atlas formulas are removed from the excel worksheet
      The worksheet is disconnected from its data source(s)
      Worksheet is no longer refreshable
   b. The in-document formulas can be restored using this same command
      *Be sure to restore Atlas functions before making worksheet changes*

2) Open the file above and position the cursor on the amount cell

3) Choose Manage Atlas Functions from the Tools menu in the Help group

   a. Tick Remove from Workbook to disconnect all Atlas formulas
      Atlas automatically records the date and time of disconnect
      Save and close the excel file
   b. Reopen the excel file and re-tick Manage Atlas Functions
      Atlas displays the date and time of the disconnect
      Tick Restore Atlas functions to re-connect Atlas formulas
      The worksheet is reconnected to its data source(s) and is again refreshable

Note: if MS One Drive is in use...

When saving a worksheet to One Drive Atlas will automatically disconnect formulas

When downloading and opening this worksheet from One Drive, Atlas will automatically reconnect the formulas
8.4 Key points

This chapter introduced the concept of snippets and how they can be saved and re-used. You learned that a snippet is a set of Atlas instructions which can be used with any of the Atlas reporting and/or upload functions.

You also learned that:

Saved snippets can include
- Data sources
- Tables
- Joined tables
- Merged tables
- Fields
- Filters
- Values
- Properties

5 types of snippets can be saved:
- Query snippets (reports)
- Visualization snippets (charts, graphs)
- Drill down snippets (sidebar reports)
- Upload snippets (templates)
- Batch snippets (multiple templates)

Snippets can be
- Saved in a workspace folder created by you
- Inserted into a MS Office document and/or Atlas presentation
- Created from scratch and saved for future use
- Accessed only by the original Atlas designer
- Copied, edited, moved, attached, renamed as any other file

Saved snippets are used when you want to:
- Re-use a snippet as a component in different documents or presentations
- Provide run-time instructions to a user who only has a standard license
- Mask the complexities of building a query from users to avoid potential errors

Finally you learned when and how to use the Manage Atlas Functions tool to disconnect and re-connect Atlas formulas in a worksheet.
8.5 **Quick interaction**

Take a moment to write down the three key points you have learned:

1. 

2. 

3.