Oracle® Retail XBR Loss Prevention and Store Analytics

System Administrator Training Guide
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CHAPTER 1

System Administrator Functions

Overview

Note: The rebranding for the latest version of this documentation set is in development as part of post MICROS acquisition activities. References to former MICROS product names may exist throughout this existing documentation set.

System Administrators have the highest level of access to the XBR and Balance applications. XBR System Administrators have the following abilities:

- Run all queries at all access levels: public, run-only and private.
- Manage new user profiles.
- Create and maintain libraries, classifications and lookup displays
- Maintain existing queries to meet business needs.

System Administrators have more visibly to the options available on the Administration menu where Analysts only have access to the first two options, User Profile (their own profiles) and Copy Quick Run window.

Learning Objectives

Upon completion of this section, you will be able to:

- Create New User Profiles (on the front end)
- Create, modify, and delete Date Names
- Create, modify, and delete Libraries and Policy Notes
- Create, modify, and delete Classifications, Lookup Display tables, and Dynamic Groups
- Copy multiple queries from one library to another
- Transfer ownership of queries from one user to another
- Purge Exceptions from the Review screen
- Access the activity stored in the Event Log

XBR Administration Menu Options

Analytics users with System Administrator security rights are the only users that have access to the full Administration menu. These users can create, modify or delete User Profiles, Libraries, Classifications, Stores Groups, Lookups and more utilizing the tool buttons from the System Toolbar.

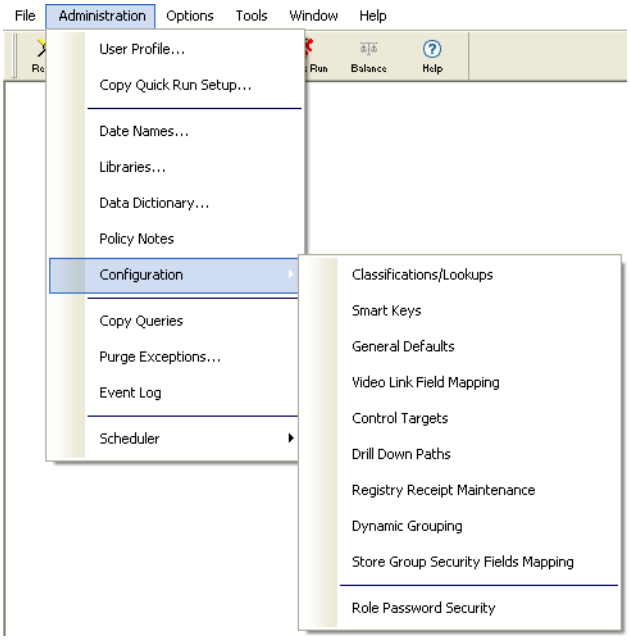


Figure 1-1: Administration Menu Options

Menu Option	Description
User Profile	Allows System Administrators to create access to the Analytics application for new users although all users can manage their own individual profiles.
Copy Quick Run Setup	Used to copy other Analytic user's Quick Run shortcuts to their own user profile. All users, in addition to System Administrators, have access to this option.
Date Names	Used to create, edit and delete predefined time frames that can be selected when running queries. Data will be returned for these specified time frames.
Libraries	System Administrators can create, modify and delete Libraries. Libraries in the Analytics application are similar to network drives available within a computer network. When Libraries are created, users need to be granted access. If users do not have access to a Library, then they do not have access to any of the queries that are stored in that library.

Menu Option	Description
Data Dictionary	The Data Dictionary allows System Administrators access to available table views, fields and lookups. Please refer to the Data Dictionary section of this manual for more specific information regarding this feature.
Policy Notes	The System Administrator can create, modify and delete policy notes. Once Policy Notes are created through the Administration menu, they can then be attached to Adhoc and Control queries for referral. Analytics users can right click data from an Adhoc query to review the applied Policy Note or they can click the Policy Notes button on the Exception Detail window to review the Policy Notes while investigating a Control exception.
Configuration	System Administrators and System Managers can access the Configuration option to create, modify or delete Classifications, Lookup display tables (dynamic or manual), and Dynamic Groups. Classifications in Analytics can be compared to folders on a computer network drive. When new queries are built, they are stored in classifications, which appear listed in the Queries list view. Lookup display tables simply convert values into user-friendly text. For example, the Swipe Flag field for credit cards would normally display data in a query report as "1" for Keyed activity or "2" for Swiped activity. The Swipe Flag lookup table converts the "1" and "2" into text "Keyed" and "Swiped" for display purposes in the query results. A Dynamic Lookup is similar to a Lookup display table except the data on the list is connected to an actual table. Dynamic Groups are subsets of data that can be used to easily pre-filter queries.
Copy Queries	System Administrators can use this option to copy queries from one library to another. This method is recommended when there are multiple queries to be copied over. In addition to copying queries, ownership can also be transferred to another user using this process.
Purge Exceptions	System Administrators can use this option to quickly delete exception sets from the Review screen. When this option is used, exceptions sets from all user Review screens are permanently deleted and information is not retained for history. The System Administrator can set a "purge prior to" date so that only old exception sets become deleted while more recent exception sets remain intact for further investigation purposes.
Event Log	System Administrators can select this option to view activity in the Analytics application. It doesn't record every detail of activity, but does track which users launch the application and when, as well as purging and scheduling activity.

Menu Option	Description
Scheduler	System Administrators can select this option to manage automated queries and to set Master Files up for Master File Distribution purposes. The scheduler provides two different views: Schedule Queries or Distribution Info. The Schedule Queries view allows system administrators to view each of the automated queries and either modify the recipients or delete the automated run. The Distribution Info view allows system administrators to view each of the Store Analytic recipients as well as Master File recipients. System Administrators can also modify default selections in terms of the report format and email addresses of potential recipients in this view. Please refer to the Master File Distribution section of this manual for more information on the Scheduler.

New User Profiles

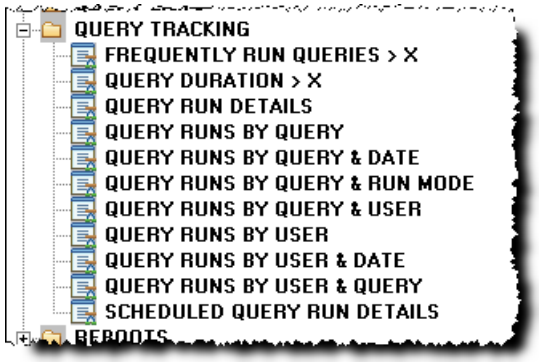
Once the Database Administrator has set up a new user on the database, an Analytics System Administrator can create the new user profile for the application. When a new user profile is created, the System Administrator has to select a user security level, library access, and a default library. There are other optional choices that can be set up by either the System Administrator or the new user him/herself.

QUERY TRACKING

XBR has a query classification called Query Tracking that contains eleven Adhoc queries that report on query and user activity.

These Adhocs track each query by date and User ID. This allows for reporting on frequently used queries as well as the activity levels of each user. Query duration is also tracked to evaluate query performance.

Since these are Adhoc queries, they are run just like any other query and have all the functionality of other Adhoc queries.



System Administrator	System Manager	Analyst	Read Only
Highest level of user access	2nd highest level of user access	Can run any Public or Run-only query, or any query for which he or she is designated as owner	Can run any Public or Run-only queries in libraries to which he or she has access
Can view & maintain profiles for all users	Can view & maintain profiles for all users	Can only view their own user profile	Can only view their own user profile
Can build/modify all query types. Can view all others queries, including private queries	Can build/modify all query types. Can view all others queries, including private queries	Can build/modify public, private and run-only queries for which he or she is designated as owner	Can run Adhoc and Drill Down queries, however they cannot build, modify or delete queries. Can review exceptions
Can access the Scheduler to maintain scheduling options for users and distribution lists	Can access the Scheduler to maintain scheduling options for users and distribution lists	Can schedule reports to run automatically and create alerts that are distributed to them only. They cannot distribute reports or send alerts to other users.	Can look at exception results in the Exception Review; however they cannot change the open/closed status of exceptions. They can update Resolution Notes if given permission and change Watch status for Employee or Store.
Can access any report or management function; Data Dictionary, Purge Exceptions, Event Log, General Defaults, Video Link Mapping and Registry Receipt Maintenance.	Can access any report or management function EXCEPT for Data Dictionary, Purge Exceptions, Event Log, General Defaults, Video Link Mapping and Registry Receipt Maintenance.		
Can create Policy Notes.	Can create Policy Notes.	Can assign Policy notes to queries.	

Function	System Administrator	System Manager	Analyst	Read Only
Run Queries	✓	✓	✓	✓
Build New Queries	✓	✓	✓	
Modify Queries	✓	✓	✓	
System Managers and Analysts can only modify queries that they own or are designated as "public" queries				
Delete Queries	✓	✓	✓	

Function	System Administrator	System Manager	Analyst	Read Only
System Managers and Analysts can only delete queries that they own or are designated as "public" queries				
Maintain User Profile	✓	✓	✓	✓
Review Exception Results	✓	✓	✓	✓
Update Exception Detail Status	✓	✓	✓	
Update Resolution Notes for Exceptions	✓	✓	✓	✓ (If given permission in their User Profile)
Update Watch Status for Employee and Store	✓	✓	✓	✓
Change Exception Status	✓	✓	✓	
Schedule Adhocs and Controls	✓	✓	✓	
System Managers and Analysts can only schedule queries to their own User IDs. System Administrators can schedule to all users				
Access & Maintain Data Dictionary	✓			
Create, Modify, and Delete Libraries	✓	✓		
Create, Modify, and Delete Classifications and Lookup Display Tables	✓	✓		
Set Up Store Group Security	✓	✓		

Store Group Security

Store Group Security limits user's visibility to query results by Stores, Regions or Groups based on their organizational hierarchy. For example: Regional managers can be set up to see query results for their stores in their region. Store Group maintenance is accessed through each Users Profile on the Store Group Security tab. Only System Administrators or System Managers can setup and maintain Store Group Security for users. System Administrators and System Managers have access to data for all Stores and are not limited to which stores they can see results for.

Maintaining Store Group Security Assignments

Access to store data is automatic once store groups are assigned to a given user ID. Stores can be selected independent of each other or at different levels of the hierarchy, like District or Region. If a level of the hierarchy is assigned to a user, then that user automatically has access to all of the stores within that level. For example, if a user is assigned to District 23, then that user has access to the data for all of the stores that make up District 23.

If there is a realignment of stores within a company hierarchy, then the changes are automatically updated for levels within the hierarchy. For example, if 3 new stores were added to District 23, then any user that's been assigned to "District 23" will automatically see data for these 3 new stores as well as the remaining stores for this district. Note: This example assumes that no hierarchical changes were made above this district, i.e. - District 23 is still in the same division and region.

If specific stores were assigned to a user individually, then they manually need to be added or removed from the User's Groups section by dragging and dropping the selections.

Groups

Groups are created in order to make it easier to administer security for libraries. Each Analytics user can be assigned to one group. For example, you might have several libraries with queries that should only be seen by your Loss Prevention department. To keep your Store Operations staff and others from accessing these libraries, you would create a group for the Loss Prevention department. Then enabling the libraries for the Loss Prevention group to have access prevents anyone not in the Loss Prevention group from viewing the queries in those libraries.

When automatically scheduling and distributing reports, it can be convenient to distribute to a group of users rather than selecting multiple users individually.

User privileges override group privileges. You can disable a user from accessing a specific library even if they are part of a group that has access to that same library. For example if the Loss Prevention department, which includes Joe Smith as a contractor, has access to the LP library and High Risk Store library, you can disable the High Risk library in Joe Smith's user profile. Joe will have access to the Loss Prevention library but not the High Risk Store library.

How to Set Up a New User Profile

1. Select **Administration -> User Profile** from the Window menu.

2. Click the **New User** 

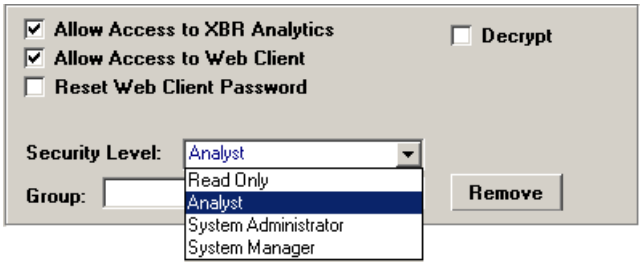
button. The Add New User Profile window will open with four (4) tabs: User Access, Preferences, Report Distribution and Address Book.

Tabs	Purpose
User Access	System Administrators set user defaults for the new user profile.
Preferences	System Administrators and Users can access this tab to set general default preferences like background colors and starting window when application is launched.
Report Distribution	System Administrators and Users can access this tab to set defaults for report distribution when reports are scheduled for their user ID.
Address Book	System Administrators and Users can create distribution lists, which encompass a group of email addresses under one email name.

3. Type the User's name in the **Name** box and press the **[Tab]** key.

4. Type the User's ID in the **ID** box. The ID must be exactly the same as the ID that the Database Administrator created on the database for the new user.

5. Verify that the **Allow Access to Analytics** check box is checked in order for the new user to launch the application (see right).

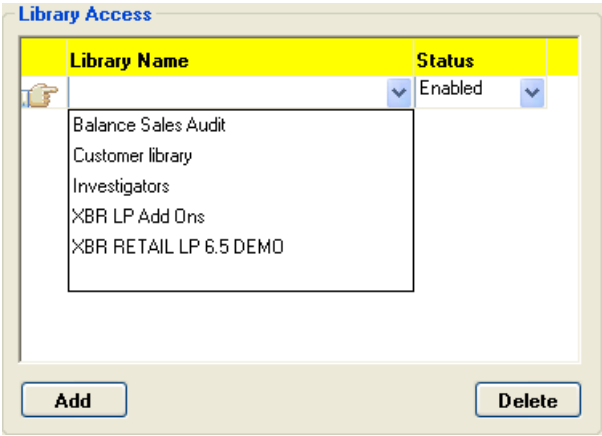


6. Click the **Security Level** down arrow and select one of the following: Read-only, Analyst, System Manager, or System Administrator (see right).

   Please refer to the table below permitted function comparison between each of these user security levels.

7. If applicable, click the **Group** down arrow and assign new user to a group.

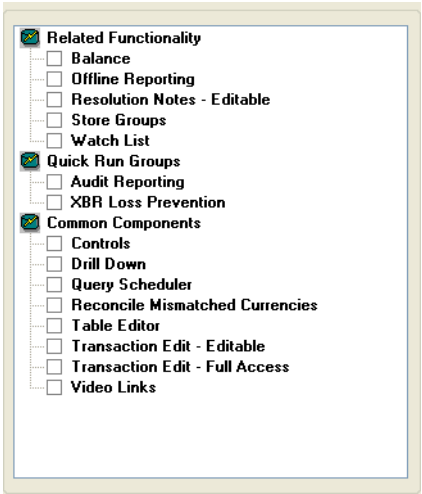
> Group names are created with access to multiple libraries. If new users are assigned to a group, then they automatically have access to applicable libraries available within that group.



8. Click the Library Access **Add** button.

9. Click the **Library Name** down arrow and select a library.

10. Verify that the **Library Status** is "Enabled" versus "Disabled".



11. Click the appropriate check boxes listed on the right to indicate additional functionality that the new user should have access to.

12. To assign access to specific store data (or any other level of the Store Master hierarchy), check the Store Groiups check box under Related Functionality to activate the Store Group tab.

> The Store Groups check box is only available for Analyst, Read Only, and System Manager.

13. Select the **Store Group Security** tab.

The **Store Group** window (left window) provides a tree view of your organizations hierarchy (i.e. Division, Region, District, Store). The **Users Group** window (right window) provides a tree view of the assigned store groups for the selected user.

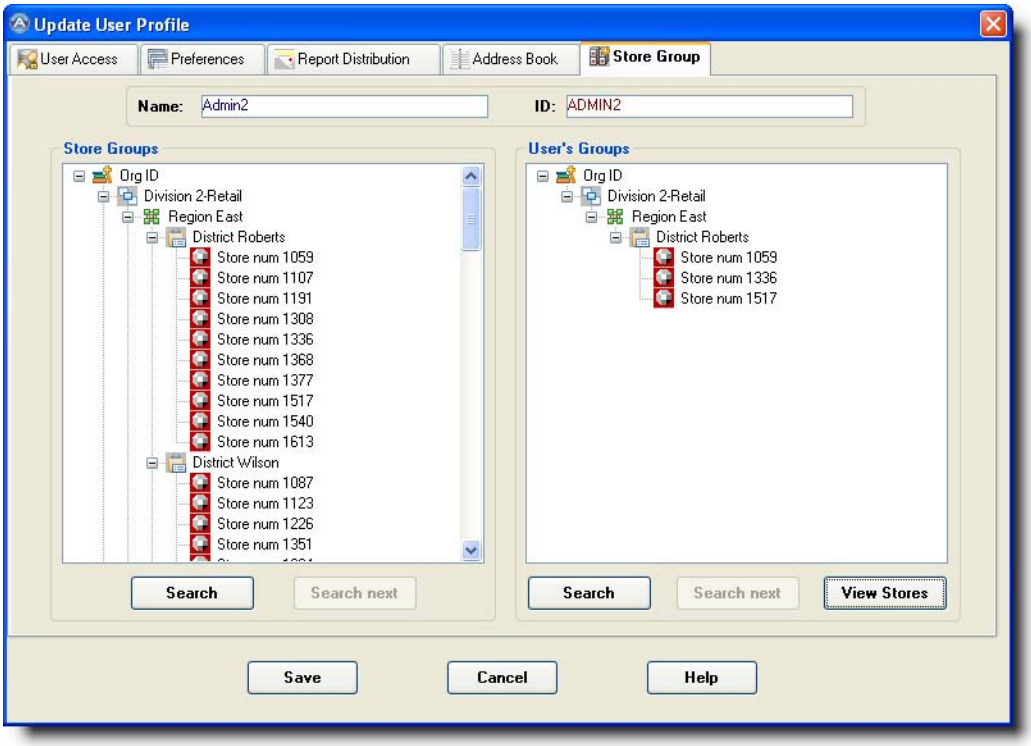
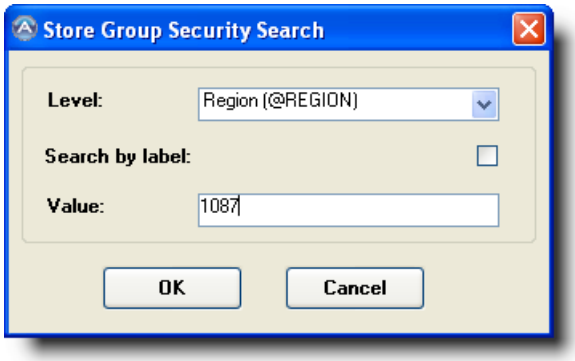


Figure 1-2: User Profile - Store Group Tab

14. Select a store or grouping (region etc...) from the Store Group window and drag it to the Users Group window. You can also double click instead of dragging.

Select a store and click the **Search** button to view details of any Store listed in the **Users Group** window. This is for viewing purposes only.



15. Click the **Close** button when done. You will need to access each users profile to assign stores or groups.

> Once you set up a user with Store Group Security the user will only see the results for those specific stores or groups when running Adhocs, Drill Downs, or Controls. When reviewing exception results users will only see the exceptions for those stores or groups they are assigned. Even if an Administrator (who can see the results for all stores) runs a control and there are 10 exceptions, the users may only see 4 based on their Store Group Security settings. The other six will not be visible because the user has not been given access to view those stores or groups.

16. Click the **Preferences** tab.

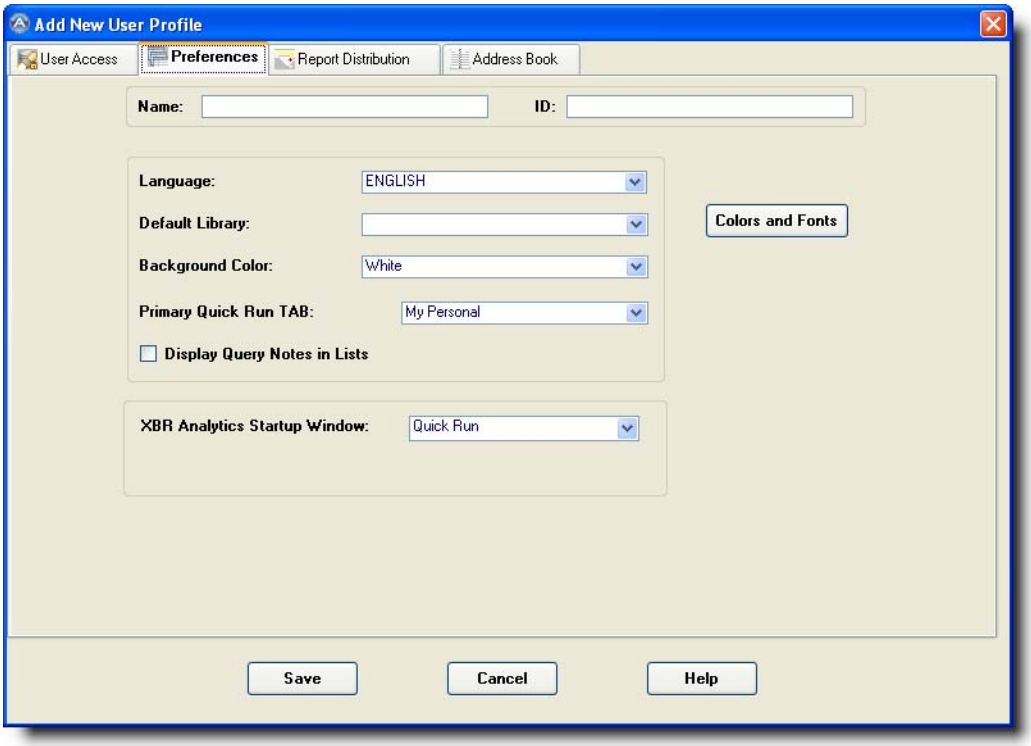


Figure 1-3: New User Profile - Preferences Tab

17. Click the **Default Library** down arrow and select a default library. Analytics will not allow a new user profile to be saved unless a default library is selected.

> The Report Distribution and Address Book tabs are customized by the individual users and are not necessary when creating new users.

18. Click the **Save** button.

19. If applicable, click the **Store Group** tab.

> The Store Groups check box (listed under Related Functionality) needs to be checked in order for the Store Group tab to appear at the top with the other tabs.

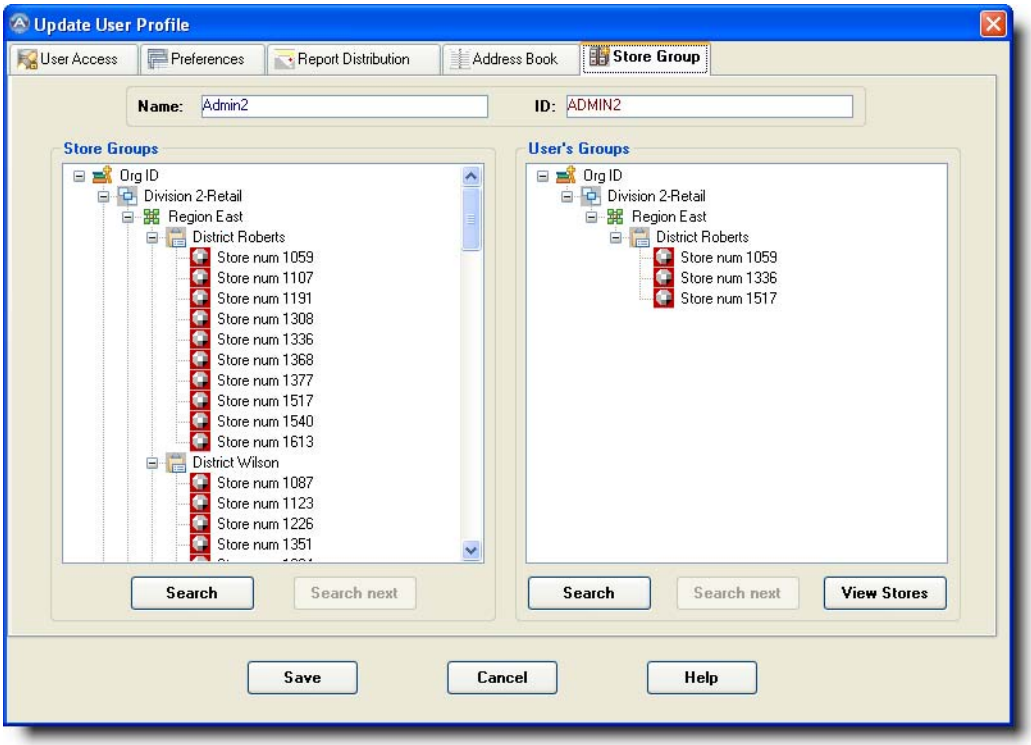


Figure 1-4: Update User - Store Group Tab

20. Close the **User Profile** window.

Creating Date Names

Date names are predefined time frames. They are set up to make it easier to designate a specific time frame to recall data when running queries. There are three (3) types of date names that can be created: Fixed, Relative, or Rolling.

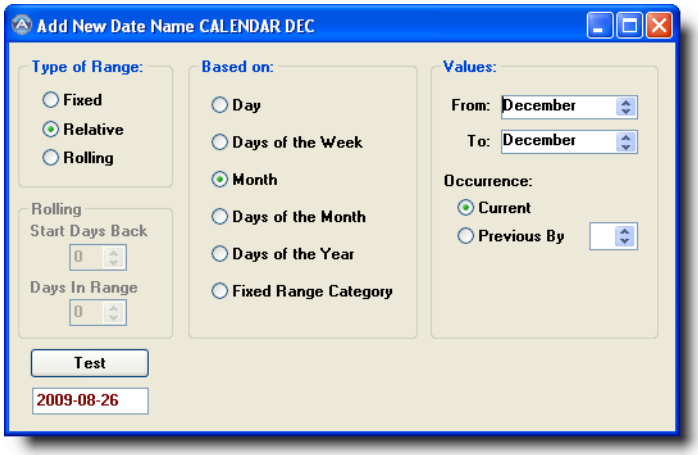


Figure 1-5: New Data Name

Fixed A Fixed date range specifies a constant period of time. For example, January 2008 or a specific week of time that is being monitored more closely.

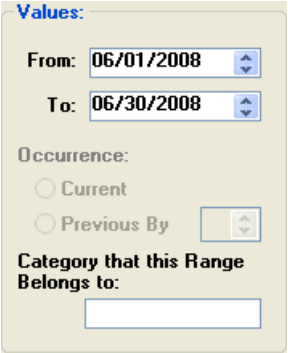
Relative A Relative date range is used to define starting and ending dates that will vary based on the current date. For example, date names like Yesterday, Last Week or Last Month are relative date names. They are relative to the current system date.

Rolling A Rolling date range is used to define a rolling time period. For example, Last 30 days or Two Days Ago would be rolling date names as they roll backwards in time from the current system date.

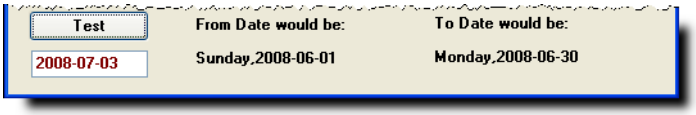
How to Create a Fixed Date Name

1. Select **Administration -> Date Names** from the Window menu.
2. Click the **New**  button.
3. In the **Name** box, type in an applicable date name and click **OK**.
4. Click **Fixed**.

5. In the **Values** section, use the **From** up/down arrows to identify the specific start date of the fixed date name.
6. Use the **To** up/down arrows to identify the specific end date of the fixed date name.



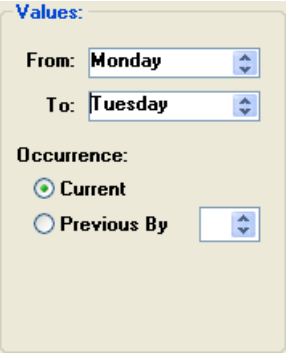
7. Click the **Test** button to ensure that the time frame is accurate.



8. Close the window.
9. Click **Yes** to save the new date name or **No** to not save changes.

How to Create a Relative Date Name

1. Select **Administration -> Date Names** from the Window menu.
2. Click the **New** button.
3. In the **Name** box, type in an applicable date name and click **OK**.
4. Click **Relative**.
5. In the **Based on** section, select the appropriate time. For example, select **Days of the Week** for two days of data.

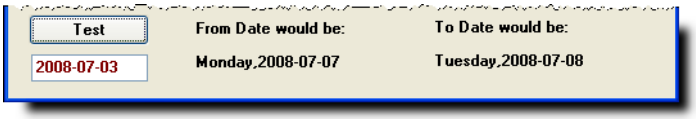


6. In the **Values** section, use the up/down arrows to identify the time. For example, Monday and Tuesday could be identified as the two days within the range.
7. Select the appropriate **Occurrence** option.

   Current Previous Monday and Tuesday based on the current system date

   Previous By Previous Monday and Tuesday based on a previous number of days to the current system date

8. Click the **Test** button to ensure that the time frame is accurate.

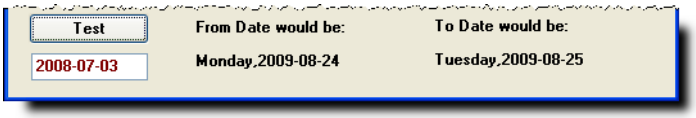


9. Close the window.
10. Click **Yes** to save the new date name or **No** to not save changes.

How to Create a Rolling Date Name

1. Select **Administration -> Date Names** from the Window menu.
2. Click the **New** button.
3. In the **Name** box, type in an applicable date name and click **OK**.
4. Select the **Rolling** option.
5. In the **Rolling** section, use the **Start Days Back** up/down arrows to indicate the start date to roll back from. For example, if the value is set at 1, then the roll back will start from one day previous to the current system date.

6. Use the **Days in Range** up/down arrows to set the number of days to be included in the range. For example, if the value is set as two, then two days of data will be included in the date range.
7. Click the **Test** button to ensure that the time frame is accurate. If the current system date is July 3, 2008, then the test dates displayed for two days ago are July 1-2, 2008, demonstrating a date range of two days.



8. Close the window.
9. Click **Yes** to save the new date name or **No** to not save changes.

LIBRARIES

Library Security

A Library organizes a collection of queries. Analytics users are given access to libraries of queries. You can also set up groups, consisting of specific Analytics users that can be assigned to access specific libraries. For example, you may want your Store Operations group to have access to several different libraries. Each time a new Store Ops user is added to Analytics, add him or her to the Store Ops group and they will have access to the appropriate libraries. This is much simpler than enabling several libraries for each individual Store Ops user.

- System Administrators and System Managers can create and manage libraries.
- By default, users DO NOT have access to a library unless enabled.
- System Administrators and System Managers cannot be secured from libraries; however, groups and users can be.
- Libraries can be established to house queries for a particular group of users. (For example, you may choose to set up a library of all loss prevention queries to be used by everyone in LP.) Then you can grant or deny access to a library for each user or user group.

Creating Libraries

Numerous libraries can be created in Analytics. Some customers prefer to have one main library while others may prefer to have a library of queries per District, for example, allowing investigators for those districts to become owners of the queries stored in those specific libraries. With owner rights, users can modify queries to better meet their business needs within their own libraries without being allowed to make changes to queries stored in the main library.

The security surrounding a library is similar to the security of a computer network drive. users need to be granted access to a library in order to use the queries that are stored in them. If a customer has multiple libraries, then the users don't necessarily need access to all of the libraries.

System Administrators cannot delete a library if there are queries still assigned to that library. In this instance, each of the queries assigned to a library must be individually deleted. Once this process is complete, then the System Administrator can delete the Library.

How to Create a New Library

1. Select **Administration -> Libraries** from the Window menu.

2. Click the **New** 

button.

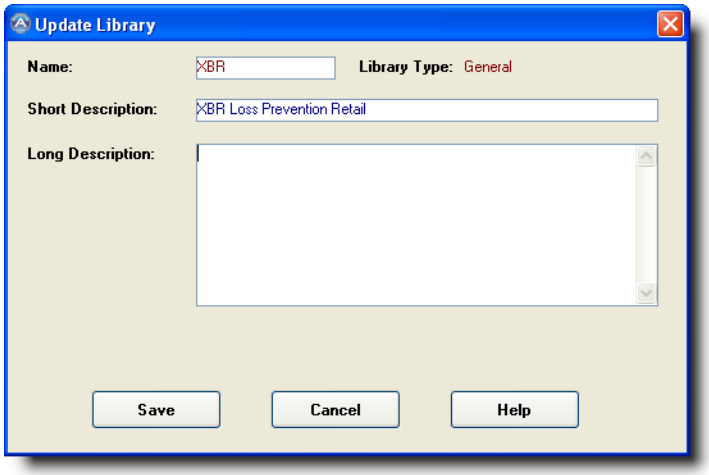


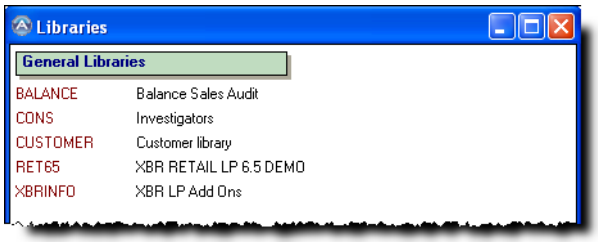
Figure 1-6: New Library

3. In the **Name** box, type a short name.
4. In the **Short Description** box, type a lengthier, more descriptive name. This name will appear in the Library drop down list from the Queries button.
5. In the **Long Description** box, type as much detail as needed to further describe the purpose of the library.
6. Click the **Save** button.

How to Delete a Library

> **!** *A Library cannot be deleted if there are still queries that reside in it. Each of the queries need to be individually deleted before a library can be deleted*

1. Select **Administration -> Libraries** from the Window menu.
2. Select the Library name that will be deleted.
3. Click the **Delete** button in the Window Toolbar on the left.



Creating Policy Notes

Policy Notes can be added to queries and used as tools to assist investigators. In order to add a policy note to a query, it must first be created from the Administration menu.

- To view a Policy Note while reviewing an Adhoc report, right click a selected row of data and select Policy Note.
- To view a Policy Note while investigating a Control exception, click the Policy Notes button from the Exception Detail window

How to Create Policy Notes

1. Select **Administration -> Policy Notes** from the Window menu.

> If a policy note document already exists, then the contents can be copied and pasted into the policy note text box.

2. Click the **New** button.
3. In the next window, type the name of the Policy Note and click **OK**.
4. In the next window (word processing window), type in the text identifying the procedures of the policy.

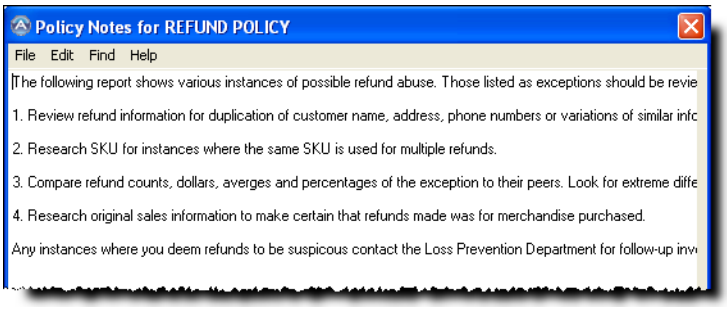


Figure 1-7: New Policy Note

How to Add a Policy Note to an Adhoc Query

1. Click the **Queries** button.
2. Select an Adhoc query from the appropriate classification and click the **Open** button.

3. Click the **Policy Note** tab.

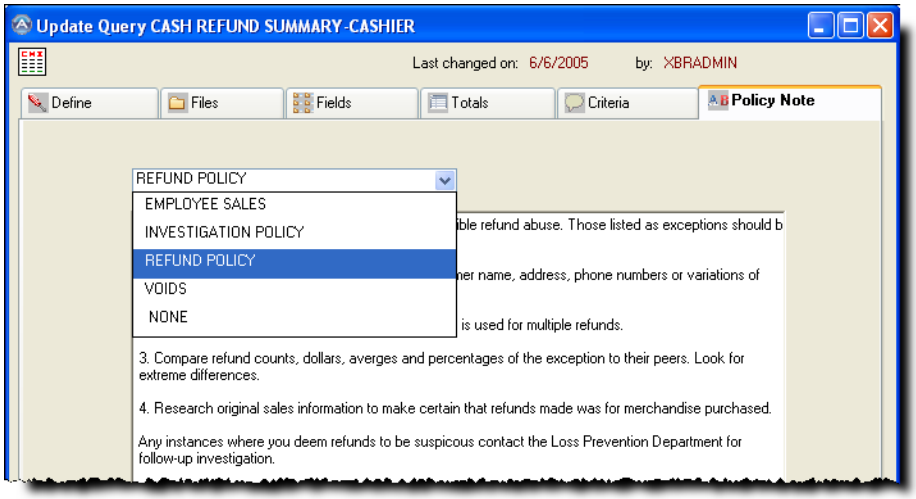


Figure 1-8: Add Policy Note to Adhoc Query

4. Click the **Policy Note** down arrow and select the appropriate Policy Note.
5. **Close** and **Save** query changes.

How to add a Policy Note to a Control Query

1. Click the **Queries** button.
2. Select the Control query from the appropriate classification and click the **Open** button.
3. Click the **Define** tab.

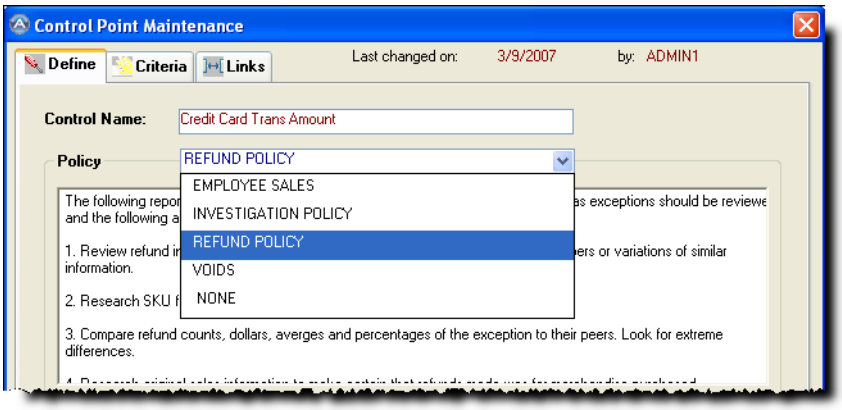


Figure 1-9: Add Policy Note to Control Point

4. Click the **Policy Note** down arrow and select the appropriate Policy Note.
5. **Close** and **Save** query changes.

CREATING CLASSIFICATIONS

Classifications are like folders within libraries. They are used to help organize the many queries that are delivered with the application. Classifications are also used to organize scheduled alerts within the alert window. When a classification is deleted, it still remains listed in the library and the alert window if there are queries still assigned to be stored in it.

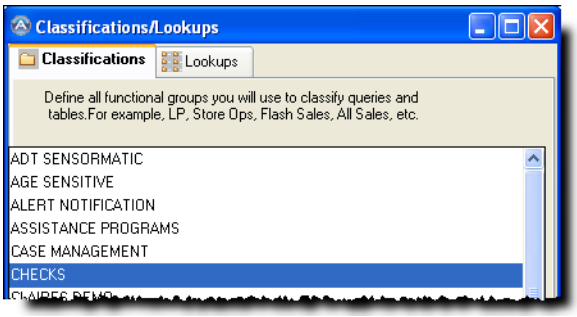


Figure 1-10: Classifications/Lookups

How to Create a New Classification

1. Select **Administration -> Configuration -> Classifications/Lookups** from the Window menu.
2. Click the **New** button in the Window Toolbar.
3. Type in the name of the new classification.
4. Click the **OK** button.

How to Delete a Classification

> **!** *Once a classification has been deleted, it will still appear in the Queries list if there is a query still stored in it.*

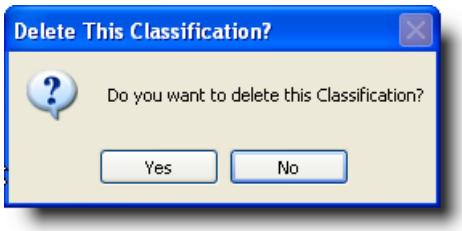
1. Select **Administration -> Configuration -> Classifications/Lookups** from the Window menu.

2. Select the name of the classification to be deleted.

3. Click the **Delete** 

button.

4. Click **Yes** when asked if you want to delete this classification.



Creating Lookup Displays

Lookup Displays are used to translate values that are found in the database to make it easier to understand what the data is referring to. For example, in the Swipe Flag field, the values would be displayed as "1" for Keyed credit card activity and "2" for Swiped credit card activity. Instead of having to remember what the "1" and "2" represent, these values were added to a lookup table that translates them into straight text. When a credit card report is displayed, the Swipe Flag field is filled in with the text "Keyed" or "Swiped" instead of the actual values of "1" or "2" as found in the database.

System Administrators and System Managers can create and modify Lookup tables. System Administrators can access Lookup tables through the Data Dictionary or both roles can access Lookup Tables through the Classifications/Lookups option on the Administration: Configuration menu. When Lookup tables are created or modified, the Data Values must be configured to the application prior to being used in a Lookup table or the text will not be displayed in the report. Although the text display can be modified, the data values can not be changed as this is the value that is stored in the database. Contact an Account Manager if new data values need to be configured.

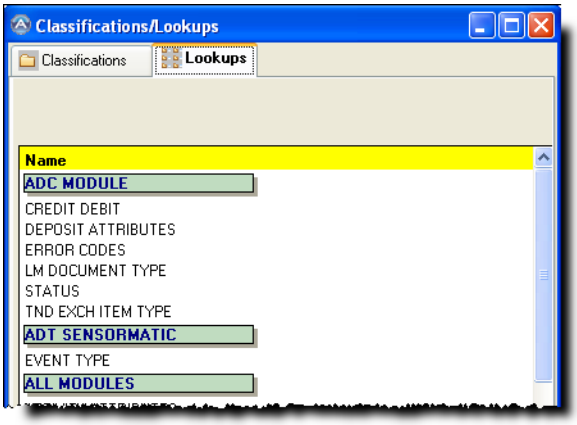
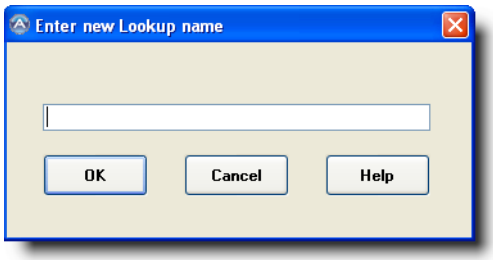


Figure 1-11: Lookup List

How to Create a New Manual Lookup

1. Select **Administration -> Configuration -> Classifications/Lookups** from the Window menu.
2. Click the **Lookups** tab.



3. Click the **New** button.
4. Type in the name of the new Lookup Display table and click **OK**.

> All of the Lookup Display tables are organized within the list by classifications. If no classification is selected, then the Lookup being created will be listed in the "Not Classified" classification.

5. Click the **Classification** down arrow and select a classification.

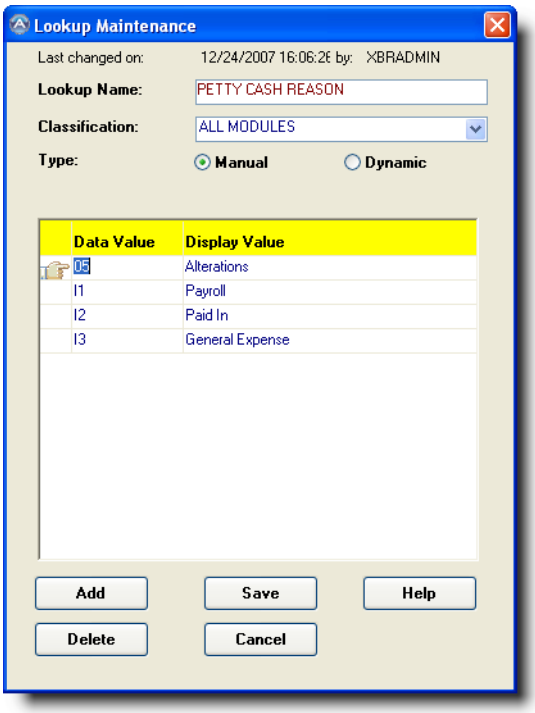


Figure 1-12: New Lookup - Manual

6. Select **Manual**. This is for a lookup table that will be maintained manually. See "Creating Dynamic Lookups" on page 26 for another way to create lookups.
7. Click the **Add** button.
8. Type in the first **Data Value** and **Display Value**.
9. Continue clicking the **Add** button and entering each Data Values and Display Value.
10. Click the **Save** button. The new Lookup Display table will be listed in the within the selected classification section of this window.

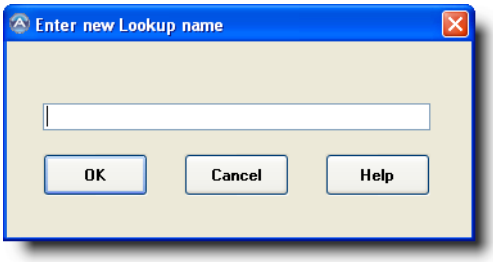
Creating Dynamic Lookups

Dynamic Lookups - Allow Admin users to create a lookup for a field using a table from within the database. The dynamic field listings are based on configurable SQL queries. For Example, the LP Region field is set up as a Dynamic look up which is being populated from the Store Master table and not input manually. The Store Master is kept up to date internally so whenever LP Region changes for a Store it will automatically be updated when using a dynamic lookup.

The user will see up-to-date data when looking at the drop down lists in the Specify Criteria section of the Query Prompt window. The field in the query has to be set to look at a lookup table on the Maintain Adhoc Query Fields window and checked on the Prompt for Criteria section of the Criteria tab of the Update Query window.

How To Set Up A Dynamic Lookup

1. Select the **Administration -> Configuration ->Classification/Lookup** from the Window menu.
2. Select the **Lookup** tab.
3. Click the **New** button.
4. Type a name for the Lookup in the Enter new Lookup name dialog box.
5. Click **OK**.



6. Select a **Classification** to display the lookup.

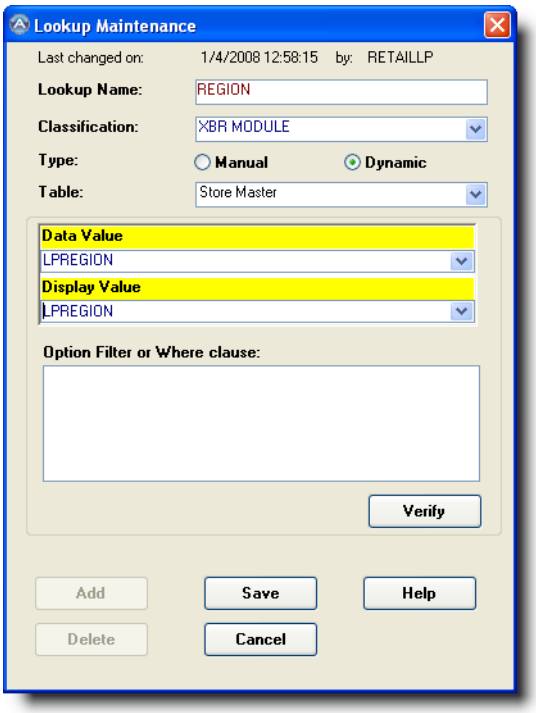


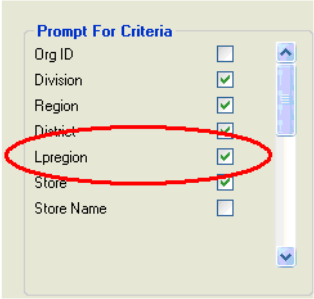
Figure 1-13: New Lookup - Dynamic

7. Select the **Dynamic** option.
8. Select a table from the table drop down list to create the lookup list.
9. Select a **Data Value** from the list of fields listed in the drop down list. The fields are listed from the table that was selected in the previous step.
10. Select the **Display Value** from the list of fields in the drop down. The data from the field you select will display for the lookup list the user will have to choose from.
11. **[OPTIONAL]** You may add a SQL “where” clause to filter the data.
12. Click the **Save** button.

In order for the user to be able to use the Dynamic Lookup you must insert the field in the query and have it display in the Specify Criteria section of the Run window. Follow the steps below:

1. Open a Query from the query list.
2. Select the **Fields** tab. If the field is not in the query you will need to add it (see Chapter 12, “Building and Modifying Queries" on page 205 for more information). If the field is in the query, continue to the next step.
3. Select the Field and click the **Update** button.

4. Select the Dynamic Lookup from the **Lookup** list. Both types of lookup tables will be listed, Dynamic and Manual.
5. Click the **Apply** button, then the **Close** button.
6. Select the **Criteria** tab.
7. Check off the **Field** you updated and applied the Dynamic Lookup for in steps 3 and 4.
8. Save your changes.



To the user when they use a lookup to specify criteria it is invisible to them that they are using data from a lookup coming right from a table instead of a manually input lookup list.

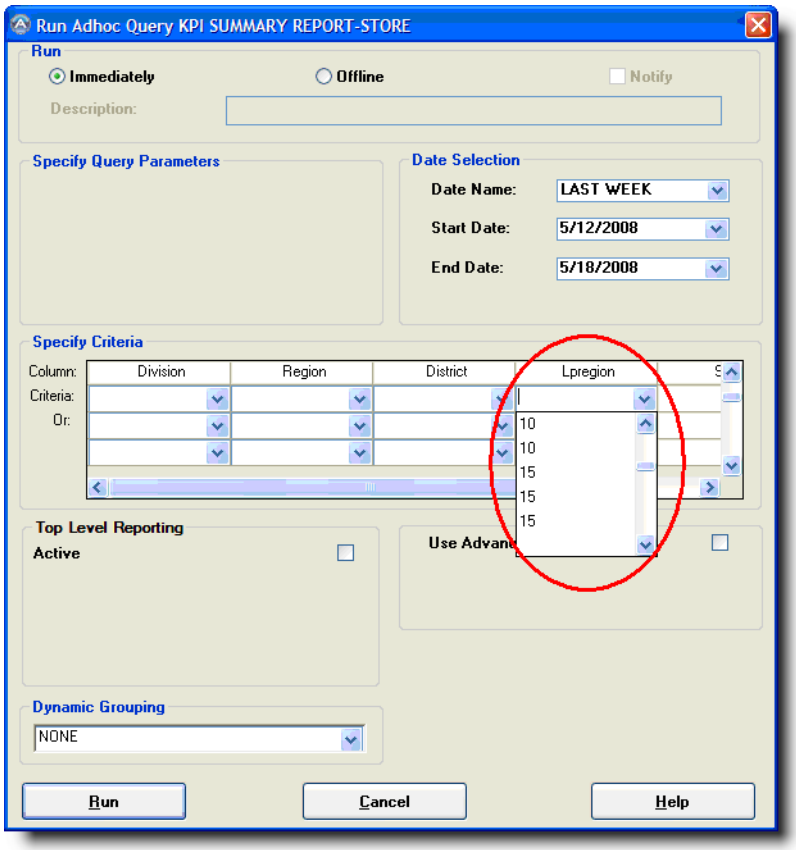


Figure 1-14: Lookups

How to Update / Modify a Lookup Display Table

1. Select the **Administration -> Configuration ->Classification / Lookup** from the Window menu.

> Users can also right-click the Lookup Display table name and select Open.

2. Select the Lookup Display table to be modified and click the **Open** button.
3. Make the appropriate changes and then click the **Save** button.
4. Close the window.

How to Delete a Lookup Display Table

1. Select the **Administration -> Configuration ->Classification / Lookup** from the Window menu.
2. Select the name of the Lookup Display table to be deleted.
3. Click the **Delete** button.
4. Click **OK**.

How to Add a Lookup Display to a Query

> When a field is directed to pull a display value from a Lookup Table, then the display text will appear in the report and not the actual data value.

1. Click the **Queries** button.
2. Open the query that requires the Lookup Display attributes.
3. Click the **Fields** tab.
4. Select the Field that will be utilizing the Lookup Display attributes and click the **Update** button.

5. At the bottom of the **Maintain** window, click the Lookup down arrow and select the appropriate Lookup Display table name.

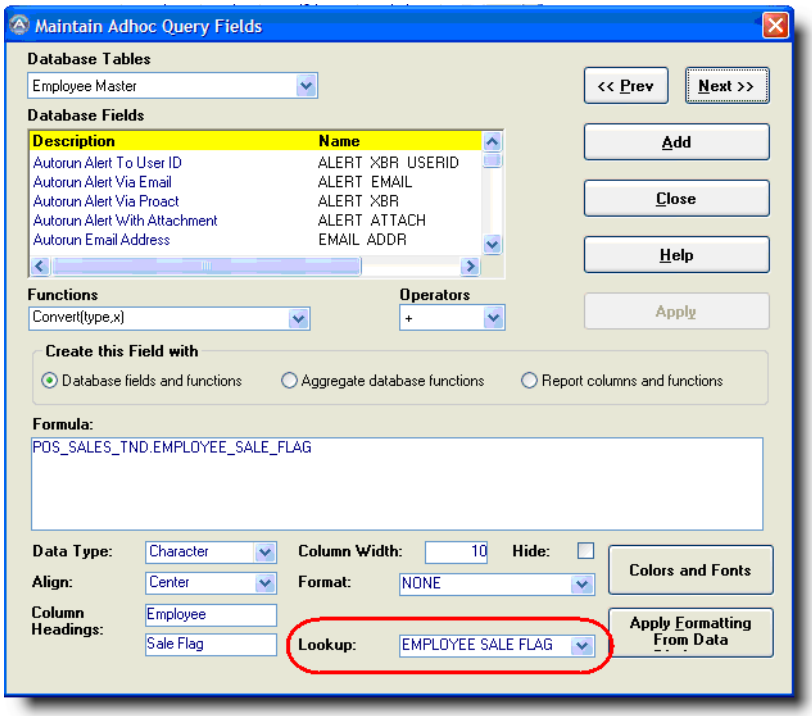


Figure 1-15: Add Lookup to Query

6. Click the **Apply** button.
7. Click the **Close** button.
8. Close the Maintenance window for the query and click **Yes** to saving changes.

Creating a Dynamic Group

Administrative users are able to create groups (subsets) of data that can be used to run a query against. This feature allows you to limit the results to a specific group. Dynamic Groups are set up under the Administration menu and can be used by all users. The user will be able to select from a pre-defined list of groups (subset) of data on the Query Prompt window.

> The groups that will display on the drop down list in the Query Run window will only be the Dynamic Groups that use the same table(s) that the query uses for the main file or supplemental files.

Set up Dynamic Groups

1. Select **Administration -> Configuration -> Dynamic Grouping** from the Window menu.
2. Click the **New** button.

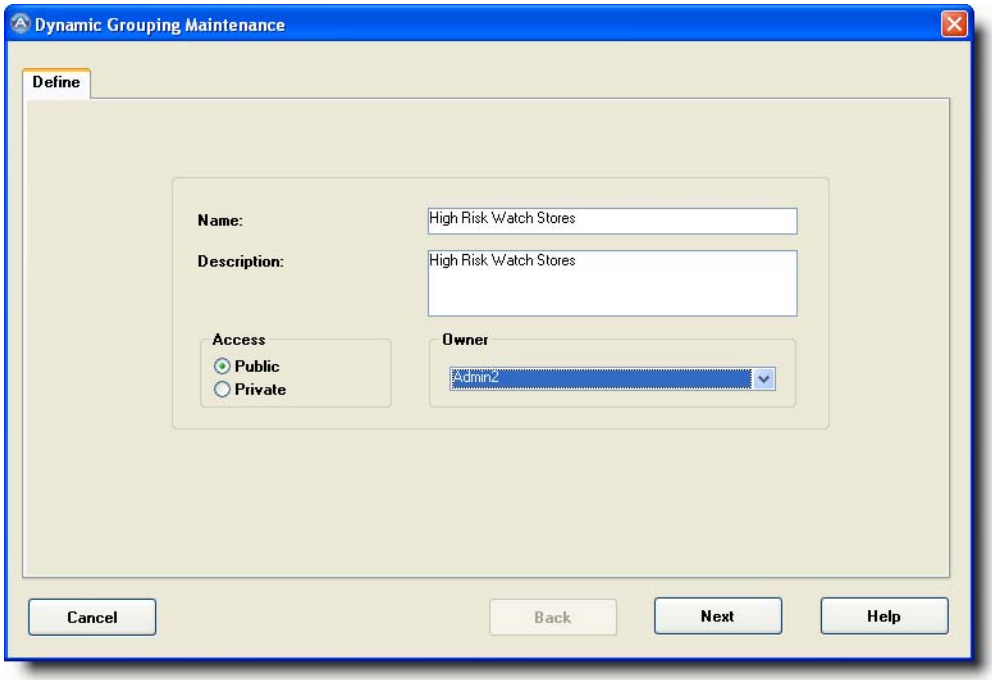


Figure 1-16: Dynamic Groups - Define

3. Type a **Name** and a **Description** for the Dynamic Group.
4. Select the **Access**: **Public** so all users can use the group or **Private** only the person creating the group can use it.
5. Select who the **Owner** is for the group.

6. Click the **Next** button.
7. Select the Table(s) from the list of tables to use for the group.

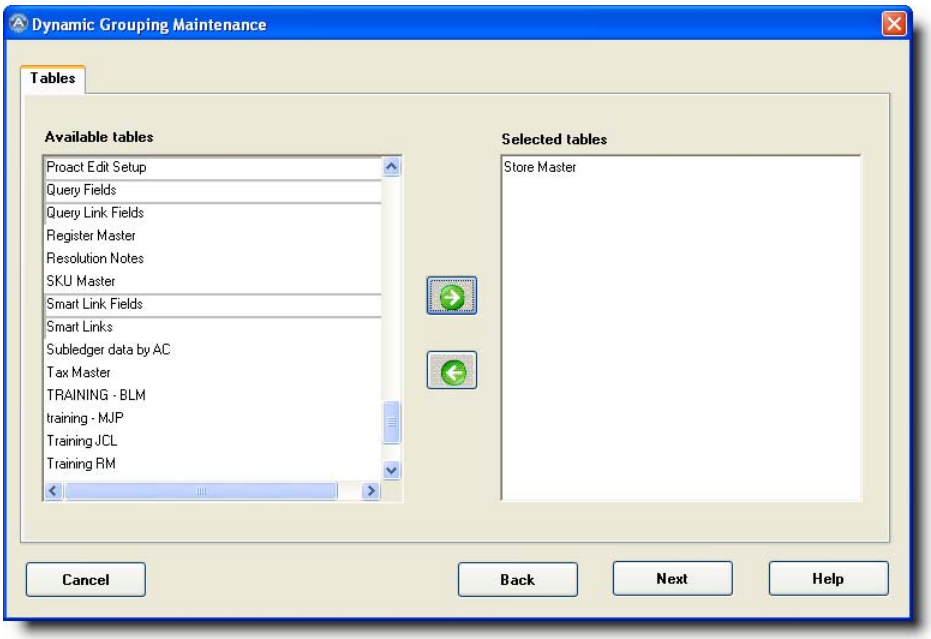


Figure 1-17: Dynamic Groups - Tables

8. Click the arrow pointing to the right to display the selected table in the list on the right.
9. Click the **Next** button.
10. Create the formula (filter) that will set the criteria to retrieve the data to use for the group. You can set multiple criteria by selecting And or OR. A new line will display to fill in.

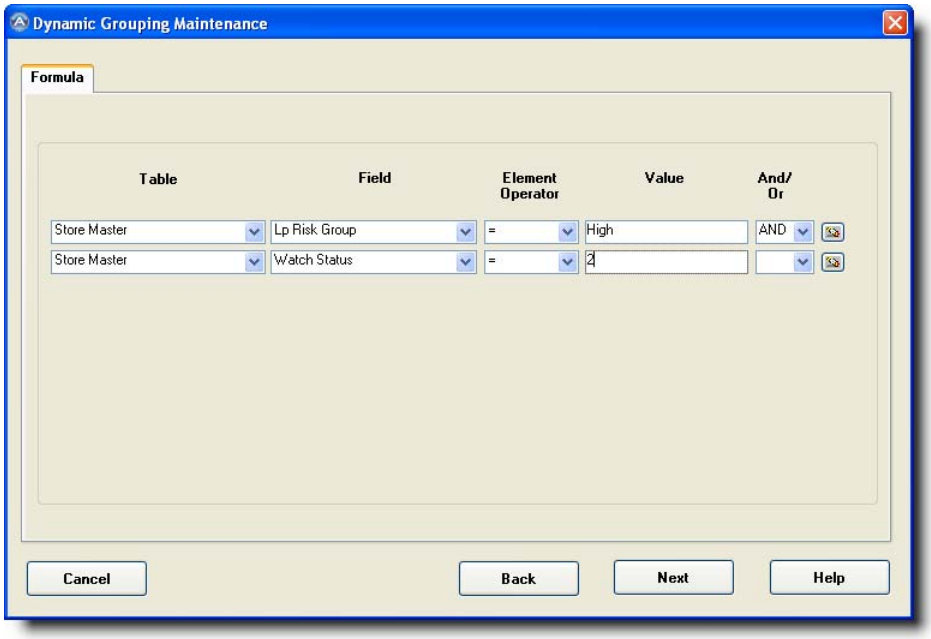


Figure 1-18: Dynamic Groups - Formula

11. Click the **Next** button.

12. Review the criteria you selected. If you need to change it click the **Back** button and return to the appropriate page.

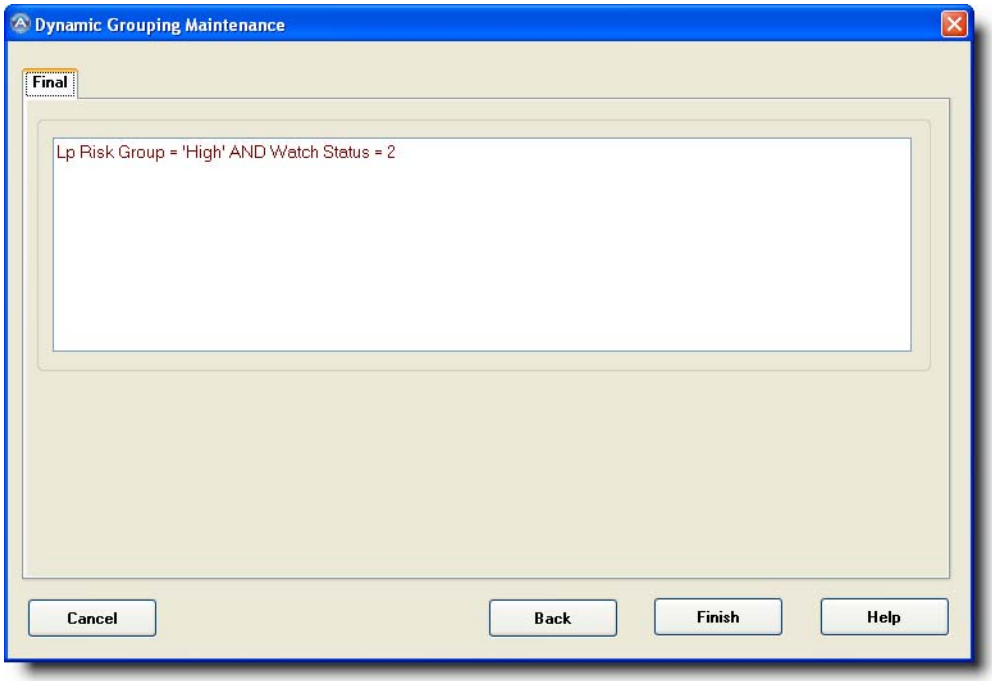


Figure 1-19: Dynamic Groups - Finish

13. Click the **Finish** button.

Copying Queries

The **Copying Queries** function on the Administration menu is used as a shortcut for copying multiple queries to another library at once. The other option would be to open each of the individual queries separately and use the Save As option to copy each query into other libraries. When the Copying Queries function is used, entire libraries can be copied over or specific classifications from libraries can be copied over. Analytics users can also become owners of these copied queries very easily if the System Administrator chooses to transfer ownership during the copying process.

How to Copy Queries from the Administration Menu

1. Select **Administration -> Copy Queries** from the Window menu.

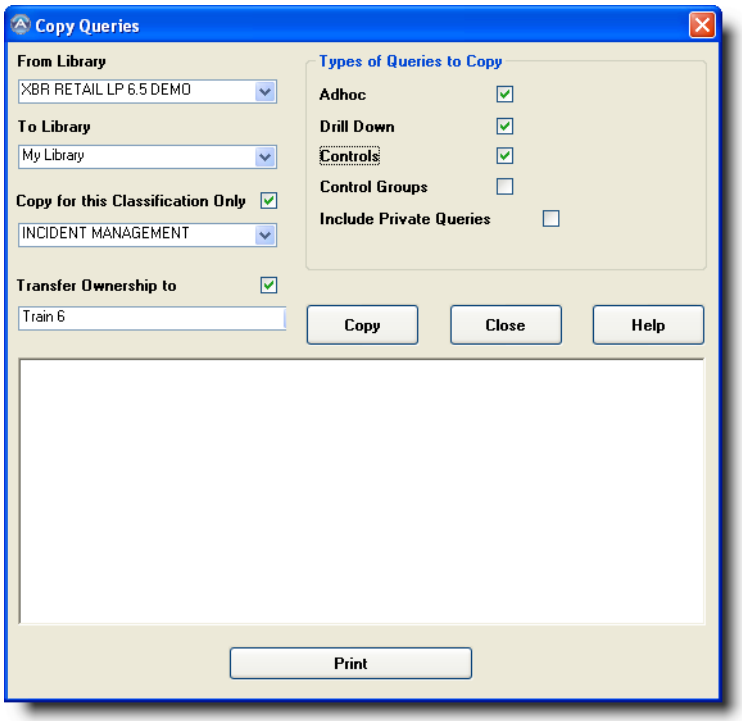


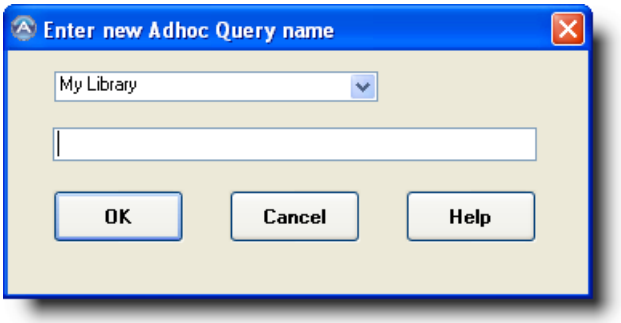
Figure 1-20: Copy Queries

2. Select the library the queries will be copied from, from the **From Library** list.
3. Select the library the queries will be copied to from the **To Library** list.
4. If applicable, click the **Copy for this Classification Only** check box to activate this option and select the specific classification from the list.
5. If applicable, click the **Transfer Ownership to** check box to activate this option and then select the new owner for the copied queries from the list.
6. In the **Types of Queries to Copy**, click the check boxes for each of the applicable query types.

7. If applicable, click the **Include Private Queries** check box to copy private queries as well. Users will not have access to copied Private queries unless ownership is transferred to them during this process.
8. Click the **Copy** button.
9. Click **OK** in the **Copy Complete** window.
10. Close the **Copy Queries** window.

How to Copy one Query at a Time

1. Select the Query to copy.
2. Click the **Open** button.
3. Click the **Save As** button.
4. Select the Library to place the copy of the query in from the drop-down Library list.
5. Type a new name for the query in the text box if you are keeping the copy in the same library as the original. If you changed the library then you can name the query the same as the original query.
6. Click **OK**.



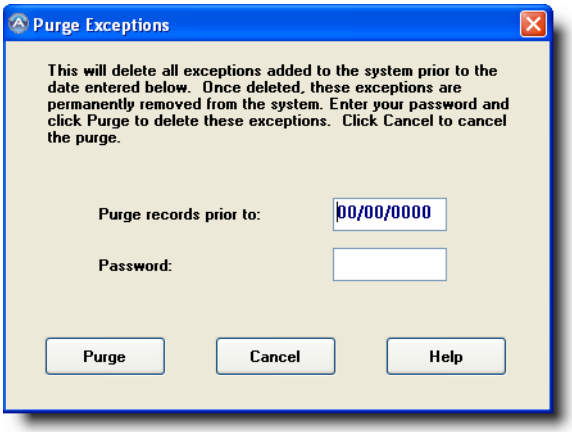
PURGING EXCEPTIONS

Purging Exceptions is a tool that is used to delete exception sets that are stored in the Review screen for all users. When this option is selected, System Administrators define a "Purge Records Prior to" Date. Any exception sets that were run prior to the identified date become permanently purged from the system and exception history is deleted. To permanently delete exceptions from a single user's review screen, instead of all review screens, the exceptions need to be deleted individually from the Review Screen window.

How to Purge Exceptions

Systems Managers are restricted from using this feature. Purging Exceptions can only be used by System Administrators.

1. Select **Administration -> Purge Exceptions** from the Window menu.
2. In the **Purge Records Prior To** box, type in the applicable date. All exceptions sets from all users Review screens will be deleted if run prior to the date indicated.
3. In the **Password** box, type in your Analytics password.
4. Click **OK**.
5. Click **OK** to the Purge Successful message.

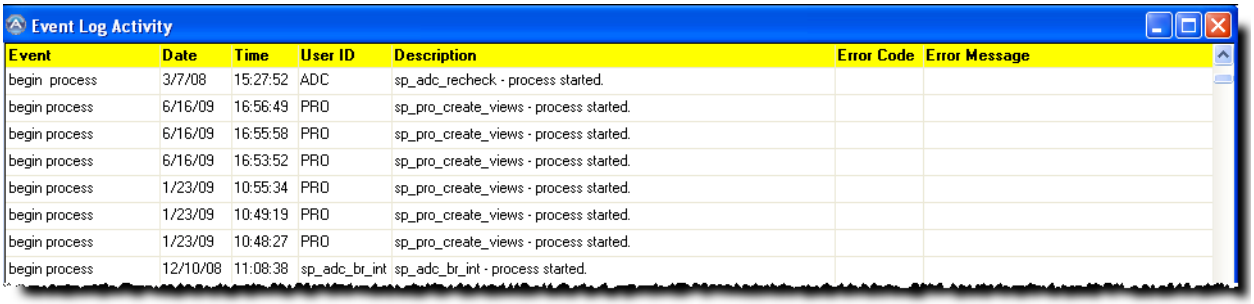


EVENT LOG

The Event Log is a list that displays activity within the Analytics application. It does not report at the detail level; however, it will display when exceptions have been purged, users have logged in/out and specific processes have run.

How to Access the Event Log

1. Select **Administration -> Event Log** from the Window menu.



Event Log Activity

Event	Date	Time	User ID	Description	Error Code	Error Message
begin process	3/7/08	15:27:52	ADC	sp_adc_recheck - process started.		
begin process	6/16/09	16:56:49	PRO	sp_pro_create_views - process started.		
begin process	6/16/09	16:55:58	PRO	sp_pro_create_views - process started.		
begin process	6/16/09	16:53:52	PRO	sp_pro_create_views - process started.		
begin process	1/23/09	10:55:34	PRO	sp_pro_create_views - process started.		
begin process	1/23/09	10:49:19	PRO	sp_pro_create_views - process started.		
begin process	1/23/09	10:48:27	PRO	sp_pro_create_views - process started.		
begin process	12/10/08	11:08:38	sp_adc_br_int	sp_adc_br_int - process started.		

Figure 1-21: Event Log

> The Event Log can be sorted and/or filtered using the basic application functionality.

CHAPTER 2

Accessing Queries

OVERVIEW

Queries can be accessed through the **Queries** button or the **Quick Run** screen. The **Queries** button gives Analytics users access to all available libraries of queries within their security rights. Users can run queries, reorganize the list of queries, access query notes and search for queries in this window.

The Quick Run screen provides shortcut access to queries and is more commonly used for frequently run queries. Analytics users can customize their Quick Run screens by adding, modifying and deleting tabs and category buttons. They can also customize the Quick Run screen by adding shortcuts to queries via category buttons. These Quick Run features and more will be reviewed in the Quick Run section.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Organize queries by classification or query name
- Expand and collapse classifications
- Activate and deactivate query notes
- Search for a query

LOCATING QUERIES

Queries are organized by classifications within libraries (circled below). To display the XBR Queries window click the Queries button from the System toolbar. The XBR Queries window will display with four (4) tabs (Adhoc, Drill Down, Controls, and Search). The **Adhoc**, **Drill Down** and **Controls** tabs will allow you access these query types and the **Search** tab will allow a user to locate an existing query.

Classifications can be expanded or collapsed to list or hide existing queries. You can expand and collapse the folders under Classifications to locate any queries and graphs you would like to run. When a query name is selected, notes that describe the type of data returned for that query can be viewed above the list of queries.

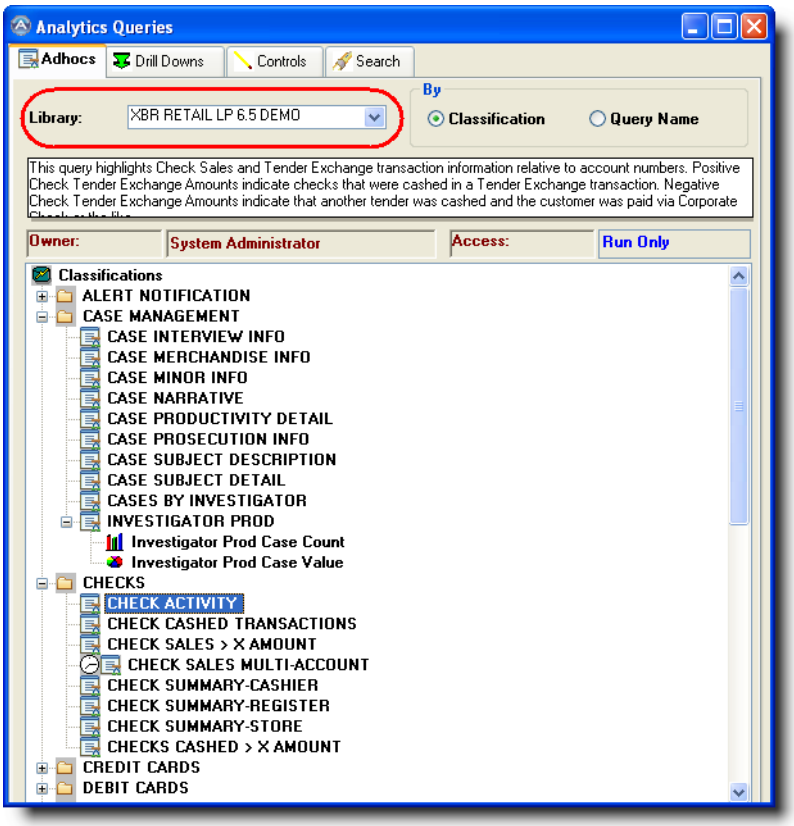


Figure 2-1: Queries Window

NAVIGATING THROUGH THE QUERY LIST

- Use the **Expand All** (circled below) button to review all available queries and graphs. The button changes to a **Collapse All** option allowing you to hide each query and graph.
- Click the plus sign "+" that displays before any classification or query to expand the item and view what is organized below it. Click the minus sign "-" to collapse an item.
- When queries display a plus sign "+", click the plus sign to view their related graphs.
- While you can double-click most items to expand or collapse them, double-clicking a query generates a report.
- A clock icon appears before any query or graph that is scheduled to run automatically. To learn how to schedule a query, refer to the Automating Queries section for more information.
- Graphs have an icon that represents the type of graph that will display such as a Pie, Column, or Bar graph.

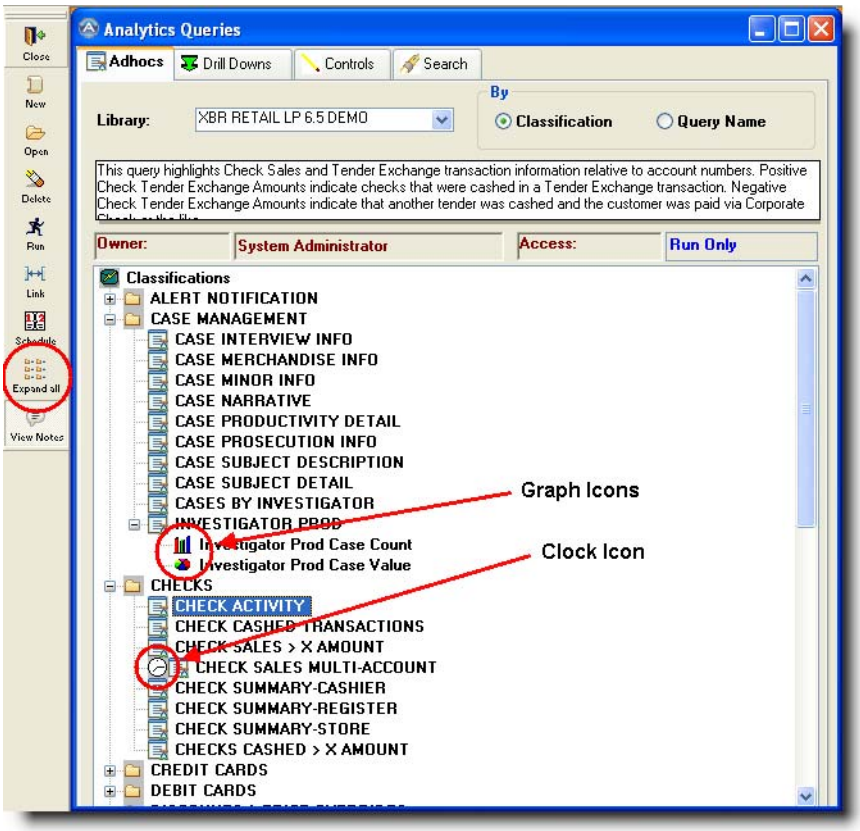


Figure 2-2: Query List Navigation

QUERY NOTES

Query notes identify the type of data results that will be returned when a query is run. To view the query notes, select the query name. The notes will automatically appear in the box above the queries list.

Click the **View Notes** button (circled below) to deactivate the query notes feature.

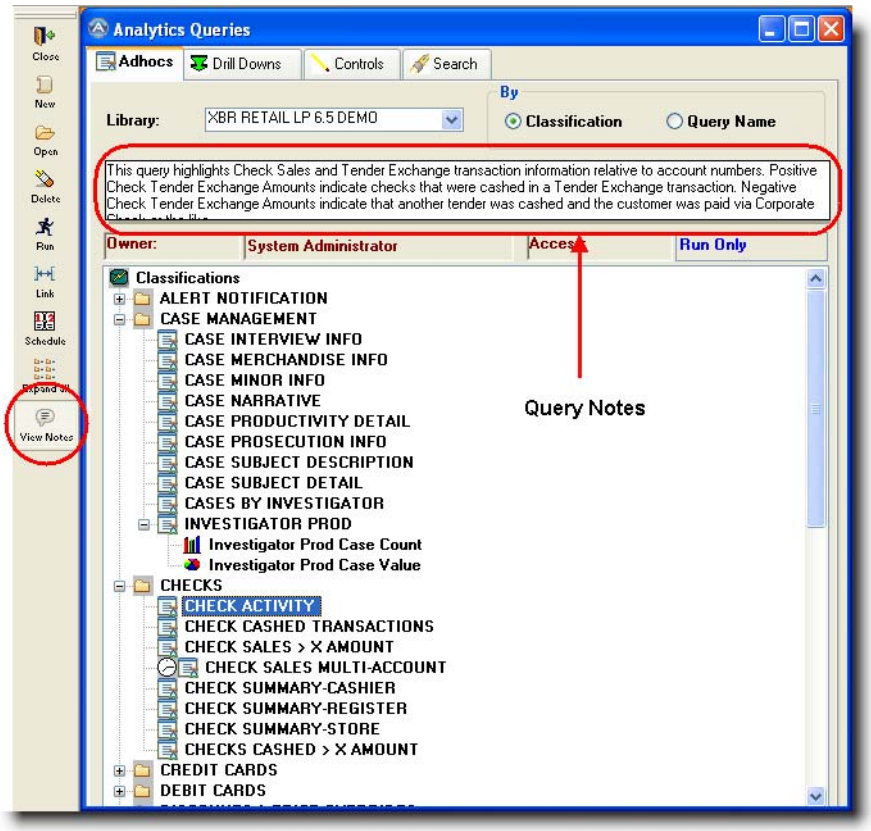


Figure 2-3: Query Notes

SEARCHING FOR A QUERY

The **Search** tab is used to quickly locate queries or graphs. Simply type a query name or any part of a query name in the **Name of Query to Search for** field, indicate which libraries and query types to look through, and then click the **Search** button.

For example, to find all queries which include Void in the query title:

1. Type Void in the **Name of Query to search for** field.
2. Check **Only search in this library** and select the desired library.
3. Select the query types you want to search for.
4. Click the **Search** button. The queries listed will be for the criteria you selected.

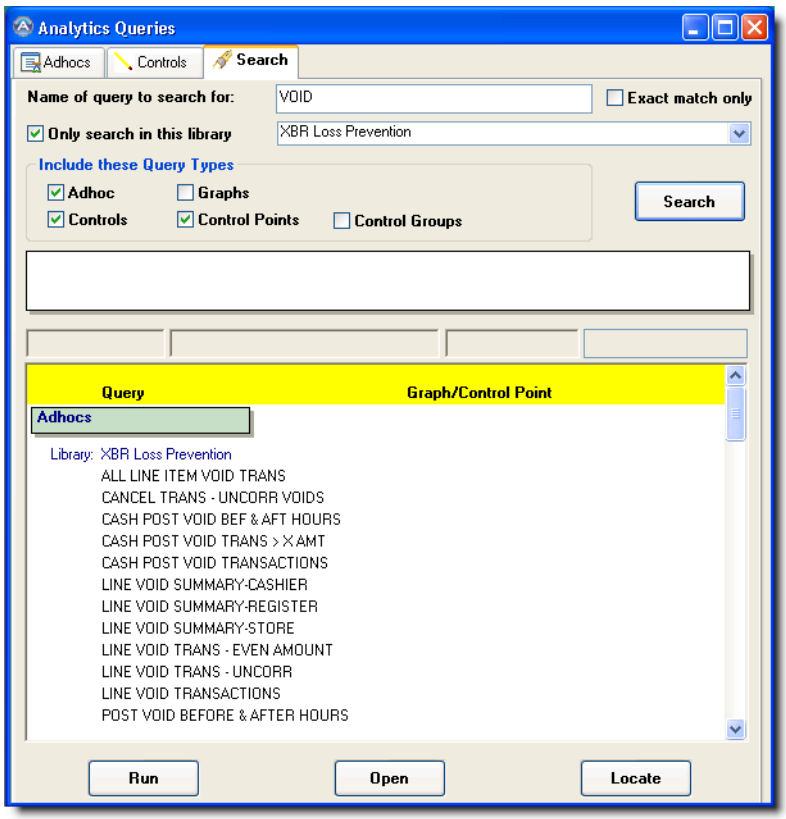


Figure 2-4: Query Window - Search

How to Search For A Query

1. Click the **Queries** button.
2. Select the **Search** tab.
3. Type a query name or part of a query name in the **Name of query to search for** text box.
4. **[OPTIONAL]** Check **"Only search in this library"** to limit your search to a specific library and select the library in which you want to search from the drop-down list.

> **TIP** The **"Exact match only"** option is helpful if you know the exact name of the query you are looking for.

5. Make sure *only* the types of queries you want are checked.
6. Click the **Search** button.
7. Use one of the following buttons to work with queries that match the search criteria you have defined.

   Run Runs the selected query.

   Open Opens the selected query so that you can modify it. Users must have system administrator rights or own the query to do this.

   Locate Finds and selects the query in the tree view on the query type tab allowing you to run, modify, export or open the query.

CHAPTER 3

Running Adhoc Queries

OVERVIEW

This section will review how to run an Adhoc query. Once the run window is accessed, users can designate a time frame to run queries for, set parameters or prefilter criteria to help narrow query results. There are two (2) methods of accessing the run window:

- Double click a query name.
- Select a query name and then click the Run button located on the Window toolbar.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Run a query
- Run a query offline
- Select a time frame
- Recognize and set parameters
- Specify criteria to prefilter query results
- Cancel a running query
- Run Top X level queries
- Pre Filter query results with Dynamic Groups

PROCEDURES

You can run queries and specify criteria to pre-filter the data that is returned to help narrow down your results. Each option within the table below is explained in detail later in this section.

How to Run An Adhoc Query

1. Click the **Queries** button.
2. Select the **Adhocs** tab to display the list of available queries.
3. Expand a Classification by double-clicking the folder or click the "+" sign.
4. Double-click a query to display the **Run Query** dialog box (see Figure 3-1).

> Select a query and click the **Run** button to bypass the Run Query dialog box.

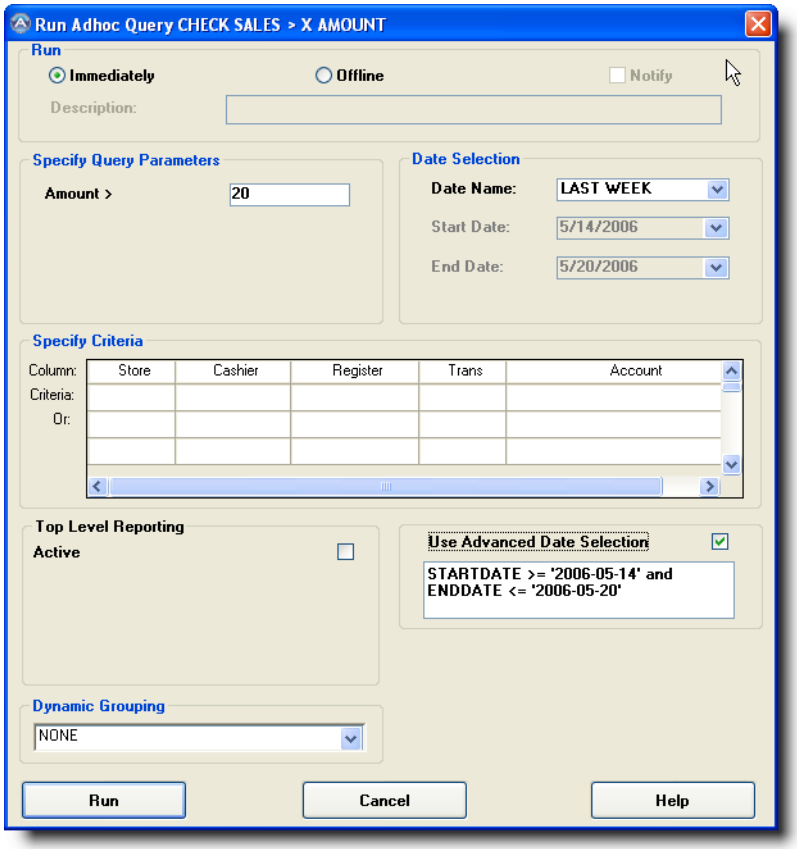


Figure 3-1: Run Query Dialog Box

5. Complete the options in the dialog box:

   a. **Run:**

      Immediately - The query will run and display the results on your screen in the results window.

      Offline - The query can be run in the background and saved. This allows the you to access the results at anytime since the data is stored within the database and the application does not have to regenerate the data. The **My Reports** window will display the Adhocs run offline.

   b. **Specify Query Parameters:**

      Greater than or less than X allows you to report data over or under a certain amount or quantity.

      Multi-use prompts allow you to report information, such as checking account numbers or credit card numbers that have been used multiple times.

      Time prompts allow you to report information that occurred before or after a specific time.

   c. **Date Selection** - Define the time period that you would like to represent in your query results. The Date Name area contains a list of pre-defined time frames. Commonly selected Date Names include: Yesterday, Last Week, Last 30 days. A custom time period can be selected instead of a date name by using the Start Date and End Date Options.

   d. **Specify Criteria** - Pre-filters information on fields such as stores, cashiers, or account numbers. The columns that appear in this section vary depending on the report that is being used.

   e. **Top Level Reporting** - The ability to display the top # of rows for a specific field that the user chooses.

   f. **Dynamic Grouping** - Select a pre-defined list of groups (subset) of data to run the query against. A group can consist of specific stores, regions etc.

   g. **Advanced Date Selection** - Enter a specific time period that was not available in the Date Selection list.

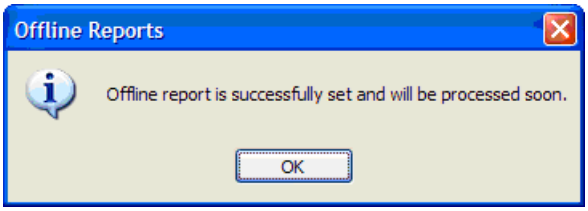
6. When you are finished selecting options, click the **Run** button. The query will run and display the results.

RUN OPTIONS

Run a query immediately or offline. Select **Immediately** to run the query and display the results on the screen select Immediately. Select **Offline** if you want to review the results at a later date or the query may take awhile to run. Selecting offline will run the query in the background and allow you to continue working. The report, along with the results will be sent to the My Reports window and you can open this report at a later time.

Run an Adhoc Offline

1. Select **Offline** (see Figure 3-1).
2. **[OPTIONAL]** Check **Notify** if you would like to receive a notification in the Analytics window when the query has run. This is recommended, so you know when the report is completed and in the My Reports window. Otherwise you will need to periodically check the My Reports window to see if the report has run.
3. Type a description in the **Description** text box. This will display in the My Reports window to help you identify the query.
4. Set the rest of the options for the query.
5. Click the **Run Offline** button. A confirmation message box is displayed (see right).
6. Click the **OK** button. The results will be sent to the My Reports window.

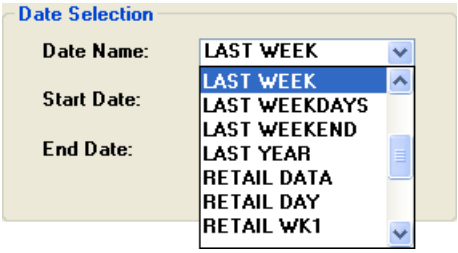


Benefits of running a report Offline

- You can run reports simultaneously
- You do not have to rerun a report for a specific time period to review the results. Reports are saved on the My Reports window until you delete them.
- If a report will take a couple minutes to run by running it Offline it frees up the application for you to continue your analysis by running other reports.
- Compare reports from week to week without having to rerun them.

DATE SELECTION

To identify the time period of a query click the down arrow in the **Date Name** area and then select a date range. The Date Names that appear in the drop down list were pre-defined during software installation. Your System Administrator can create additional Date Names, if needed.



Use the **Start Date** and **End Date** prompts to define a custom time period that does not appear as a Date Name in the drop down list.

How To Use a Custom Time Period

> The custom time period that you select using the **Start Date** and **End Date** options takes precedence over the **Date Name** selection.

1. Click the down arrow in either the **Start Date** or **End Date** area. A calender is displayed.

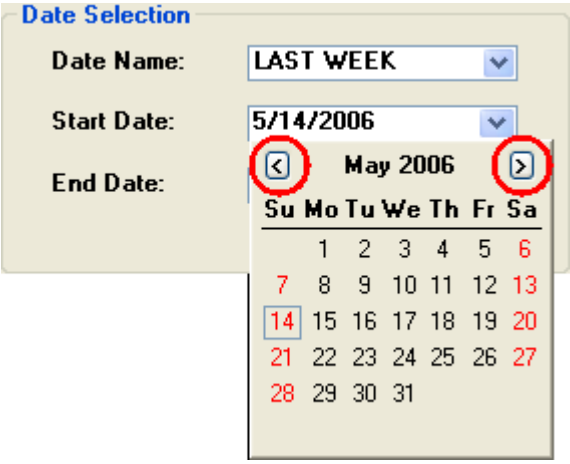


Figure 3-2: Custom Date Selection

2. **[OPTIONAL]** Use the arrows to display the month you would like to select from.

   Use the left arrow to move to previous months and use the right arrow to move to more recent months.

3. Click on the day that you would like to use as either the start date or end date.

Specify Query Parameters

Specify Query Parameters allow you to identify a value as a method of filtering data in a query. For example, in a “Cash Refunds & Exch > X” parameter, the value might be -50. When the query is run, the results will be any Refund or Exchange greater than -50. The following is an example of some of the parameters that are available in some of the queries:

“Greater than X” parameters are used to report data over an amount or quantity you choose. When running the Cash Refund & Exch > X Amount enter the refund or exchange amount (as a negative) above which you want to research.

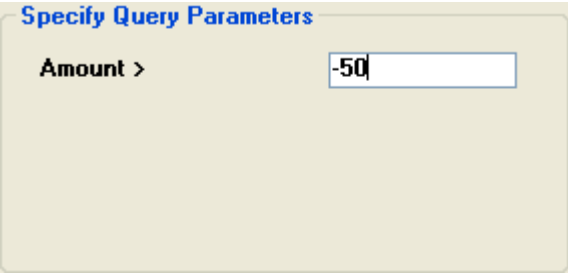


Figure 3-3: Specify Query Parameters - Greater Than X

> Refund dollars are expressed as negative numbers. In other words: -50.00 represents a refund of $50.00.

Multi-use reports are used to display account numbers that have had multiple sales or refunds rung against them. You could also review Gift Certificates or Gift Cards that were sold and/or redeemed multiple times.

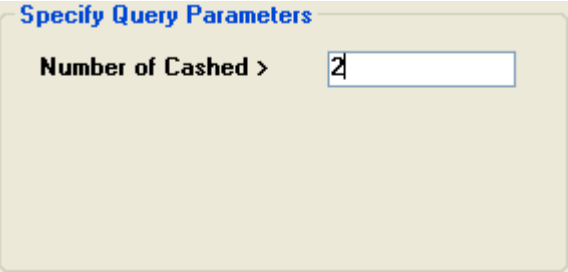


Figure 3-4: Specify Query Parameters - Multi-use

SPECIFY CRITERIA

The **Specify Criteria** section allows you to filter a query using report fields in an effort to narrow the query results. For example, instead of displaying data for all stores within your organization, you can enter specific store(s) to view in the query results.

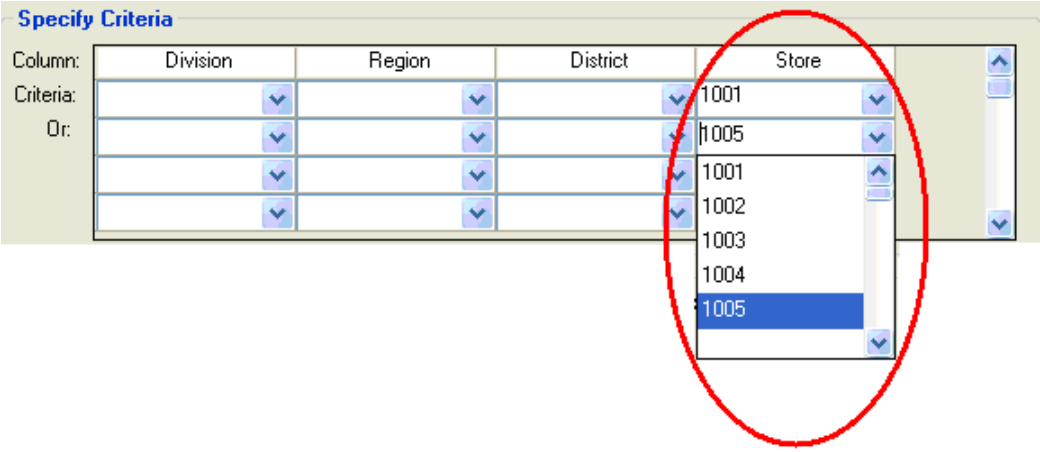
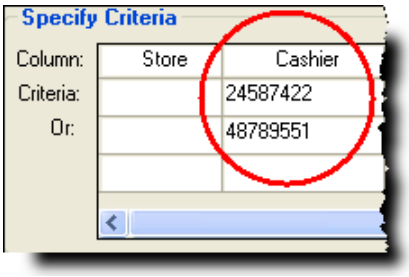


Figure 3-5: Specify Criteria - Store List

The Store list in Figure 3-5 is a Dynamic lookup. The list is being populated from the database table instead of a lookup table. The benefit of the list being populated right from the database table is that it will always be up to date.

The example in Figure 3-5 would report all data for Stores 1001 *and* 1005.

The example to the right reports all activity for cashiers 24587422 and 48789551.



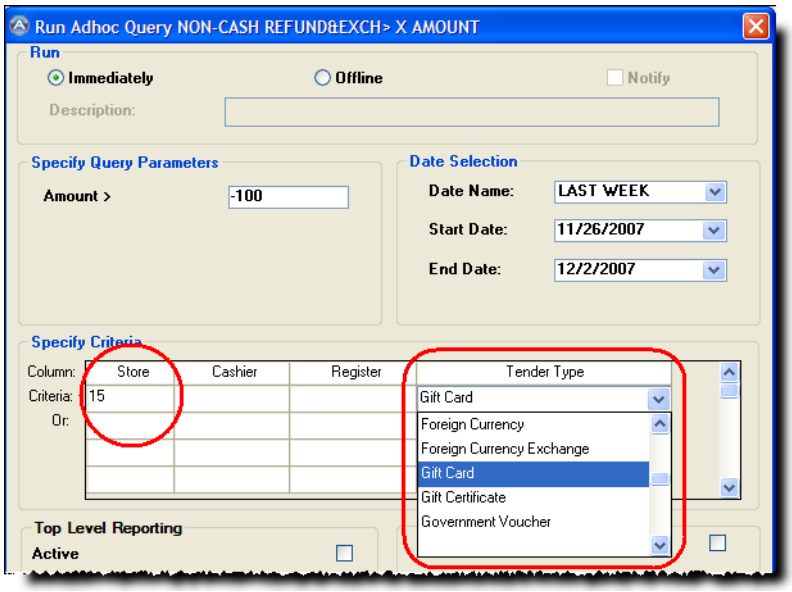


Figure 3-6: Specify Criteria - Tender Type

The example in Figure 3-6 reports all Noncash Refunds & Exchanges for Store 15 for last week. The down arrow on the Tender Type box indicates a Lookup.

Lookup Tables translate database values into more meaningful text. In the example on the right, the text "Gift Card" will be listed in the query results instead of the database value, which could be "15."

Top X Level Reporting

You can display a specific number of Top-level rows of data by using the Top Level Reporting section. Instead of running a query and getting back 500 rows of data, you can limit the number and only display the top 25 rows.

How to Select Top Level Reporting Options

1. Check the Active box in the Top Level Reporting section when running an Adhoc.
2. Then choose a field from the Top Level Field drop down box. The field you select from the list will be the field that is filtered and will only return the number of rows you type in the Top Level Rows: text box.

> For Controls the top-level field used is Rank Score/Overall score to determine the top rows.

3. Select Ascending if you want the query results to be sorted ascending. Leave it unchecked if you want descending.
4. Type the number of rows in the Top Level Rows text box for the number of rows you want returned for the query results.

> The number of rows returned may be a few more or less than what you entered in the Top Level Rows number box. The reason for this is if you specify a specific number to return, the data may have multiples for the field you choose in the top level reporting section. **For example**: If you choose to return the top 7 rows of data for the field Ref & Exch Amount in the Cash Refund and Exchanges Amount query you may get 8 rows returned (see Figure 3-7 on page 57). This occurs because there is more than one of the same amount ($1.08). Instead of the application selecting which record to return it will return all the records that have the same amount and you end up with the top 8 instead of the top 7.

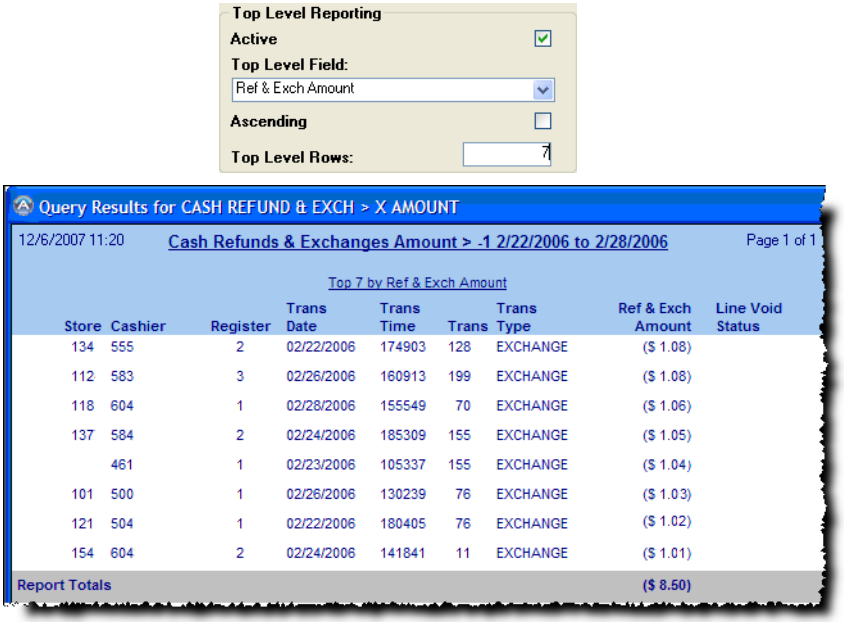
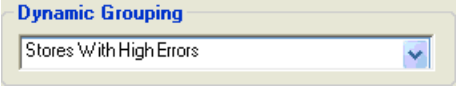


Figure 3-7: Top X Level Reporting

Dynamic Grouping



A dynamic group is predefined criteria set up by a System Administrator for users to access and use as a filter option when running a query. There may be a group of Stores, Regions, or SKUs for which you or someone may need to consistently report on. Instead of manually entering the High Risk Stores within the Specify Criteria section, a group can be created using the Dynamic Group feature. If you choose to select a group from the list the query results will only report on that group. If you would like a list created for you please contact your Analytics System Administrator.

Cancelling a Query From Running

You can **Cancel** a query from completely running when you mistakenly run a query without selecting an appropriate time frame or without filtering on any criteria to limit results. In some instances, you may want to cancel a query mid-run because the results are accruing too many rows of data and canceling the run is the only method of interrupting the process. When a query is cancelled, Analytics will return the rows that it finished querying from the database and will discontinue retrieving any additional rows.

How To Cancel A Query

1. When running a query, wait until the **Running Query** dialog box appears. Notice how this window is counting the number of rows as they are being returned (see right).
2. Click the **Cancel** button.
   - The number of rows that were returned before the **Cancel** button was clicked displays in the lower left corner of the query window.
   - The **Stop** icon  appears in the lower, right corner of your screen indicating that the query currently displayed did not completely run.
   - Once you have canceled a query, you need to rerun it if you decide to display the entire query results after all.

C H A P T E R 4

Managing Query Results

OVERVIEW

Query results can be managed by sorting the data in ascending or descending order, filtering data to extract specific results and linking to other Adhoc queries for more detailed information. Sorting can occur within a single field or multi-level using the available fields within the query. Filtering can be accomplished using data values, text, lookups and wildcard characters. Both of these functions allow users to easily create customized and meaningful queries that can later be printed or exported for permanent referral.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

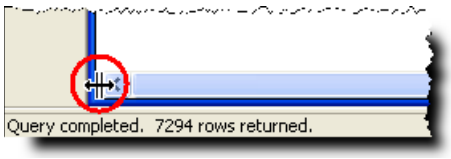
- Use Smart links to display additional details in a pop-up window
- Freeze the query results window
- Sort results in either ascending, descending, or multi-sort order
- Filter the data using values, text, lookups and wildcards
- Link to other Adhoc queries for additional information
- Link to video for viewing and archiving

Freezing Columns in Wide Queries

When a query has too many columns to fit on the screen at the same time, it is helpful to freeze some columns on the left side of the screen. Users can then scroll the rest of the columns to the right while the descriptive columns remain in view on the left.

How To Freeze Columns

1. Point to the black space at the bottom, left corner of a query until the mouse pointer changes as shown in the figure to the right.

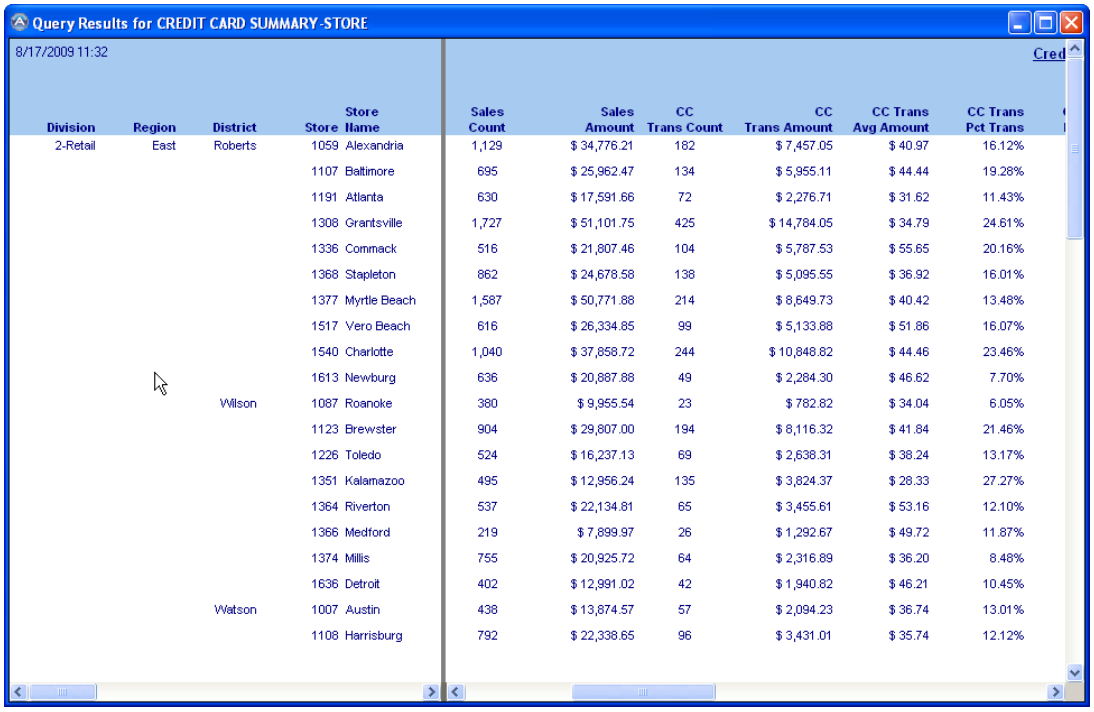


2. Drag and drop the mouse pointer ( ) to the right to a position after the columns that you want to freeze.

> TIP
> *A vertical line appears dividing the columns allowing you to scroll through the right window while freezing the left.*

To un-freeze your columns, drag the black space back to the left margin as far you can.

> If you are experiencing difficulty with this procedure, press **[Ctrl]+[End]** to move to the end of the query and attempt this procedure again.



Query Results for CREDIT CARD SUMMARY-STORE

8/17/2009 11:32

Division	Region	District	Store	Store Name	Sales Count	Sales Amount	CC Trans Count	CC Trans Amount	CC Trans Avg Amount	CC Trans Pct Trans
2-Retail	East	Roberts	1059	Alexandria	1,129	$ 34,776.21	182	$ 7,457.05	$ 40.97	16.12%
			1107	Baltimore	695	$ 25,962.47	134	$ 5,955.11	$ 44.44	19.28%
			1191	Atlanta	630	$ 17,591.66	72	$ 2,276.71	$ 31.62	11.43%
			1308	Grantsville	1,727	$ 51,101.75	425	$ 14,784.05	$ 34.79	24.61%
			1336	Commack	516	$ 21,807.46	104	$ 5,787.53	$ 55.65	20.16%
			1368	Stapleton	862	$ 24,678.58	138	$ 5,095.55	$ 36.92	16.01%
			1377	Myrtle Beach	1,587	$ 50,771.88	214	$ 8,649.73	$ 40.42	13.48%
			1517	Vero Beach	616	$ 26,334.85	99	$ 5,133.88	$ 51.86	16.07%
			1540	Charlotte	1,040	$ 37,858.72	244	$ 10,848.82	$ 44.46	23.46%
			1613	Newburg	636	$ 20,887.88	49	$ 2,284.30	$ 46.62	7.70%
		Wilson	1087	Roanoke	380	$ 9,955.54	23	$ 782.82	$ 34.04	6.05%
			1123	Brewster	904	$ 29,807.00	194	$ 8,116.32	$ 41.84	21.46%
			1226	Toledo	524	$ 16,237.13	69	$ 2,638.31	$ 38.24	13.17%
			1351	Kalamazoo	495	$ 12,956.24	135	$ 3,824.37	$ 28.33	27.27%
			1364	Riverton	537	$ 22,134.81	65	$ 3,455.61	$ 53.16	12.10%
			1366	Medford	219	$ 7,899.97	26	$ 1,292.67	$ 49.72	11.87%
			1374	Millis	755	$ 20,925.72	64	$ 2,316.89	$ 36.20	8.48%
			1636	Detroit	402	$ 12,991.02	42	$ 1,940.82	$ 46.21	10.45%
		Watson	1007	Austin	438	$ 13,874.57	57	$ 2,094.23	$ 36.74	13.01%
			1108	Harrisburg	792	$ 22,338.65	96	$ 3,431.01	$ 35.74	12.12%

Figure 4-1: Freeze Columns

SORTING

There are TWO common ways to SORT queries once you have run them:

- Click a **column heading** to sort a query by that column in ascending order (lowest to highest or A-Z). Click the column heading again to sort the query by that column in descending order (highest to lowest or Z-A). When you point to a column heading, the mouse pointer will change to the shape of a hand.

- Use the **Sort** button to sort a query by multiple columns. A Sort dialog box displays the current sort order for the query. Prior to any sorting activity, the default sort order is listed on the right side of the window. After any sorting activity, the current sort order is listed on the right side of the window (Figure 4-2).

How To Perform a Multiple Column Sort in a Query

1. Click the **Sort** button. The Sort dialog box is displayed.

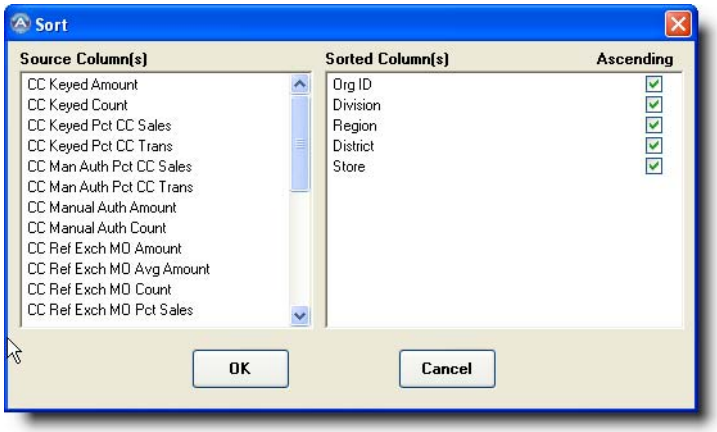


Figure 4-2: Sort Dialog Box

2. Drag the columns you want to use for sorting from the **Source Column(s)** area on the left to the **Sorted Column(s)** area on the right.

3. Click the **Ascending** check box to sort in ascending order or uncheck it to sort in descending order.

4. Click the **OK** button.

- When you change the sort order using one of the methods mentioned above, you are making a *temporary* change. This sort order is applied until you either re-sort the query or close the query and re-run it.

- The next time the query is run, the default sort order is applied, which was determined when the query was built.

- System Administrators and System Managers can permanently modify the sort order of queries.

FILTERING

Filtering allows users to focus on a specific result of the query once the query has run. For example, .

If you selected Top-level Reporting when you originally ran the query, the Top Level Reporting option appears active in the Filter dialog box. You can deactivate it at this time and create a new filter for all the data. If you create a filter with the Top-level reporting active the application will first filter all the data based on the filter you created and then it will apply the Top level reporting criteria within the filtered data.

How To Filter on Query Results

1. Click the **Filter** button. The Filter dialog box opens.
2. In the **Column Name** area, select the column on which you will base your filter.
3. In the **Operator** area select an expression (=, <, >, >=, in, not in, etc.).
4. In the **Value** area, enter the desired value(s).
5. **[OPTIONAL]** Select “And” or “Or” to add another filter.
6. **[OPTIONAL]** Repeat steps 2 through 4 to complete the additional filter.
7. **[OPTIONAL]** If you want to display the top-level records based on a certain field, activate the **Top Level Reporting** check box.
   a. Choose a T**op Level Field** on which to report top-level data.
   b. Select **Ascending** or leave blank for descending.
   c. Type in the number of rows to be returned in the **Top Level rows** box.
8. Once you have completed building your filter(s), click **OK** to display the query results with your changes.

Simple Filter and Top Level Reporting Filter

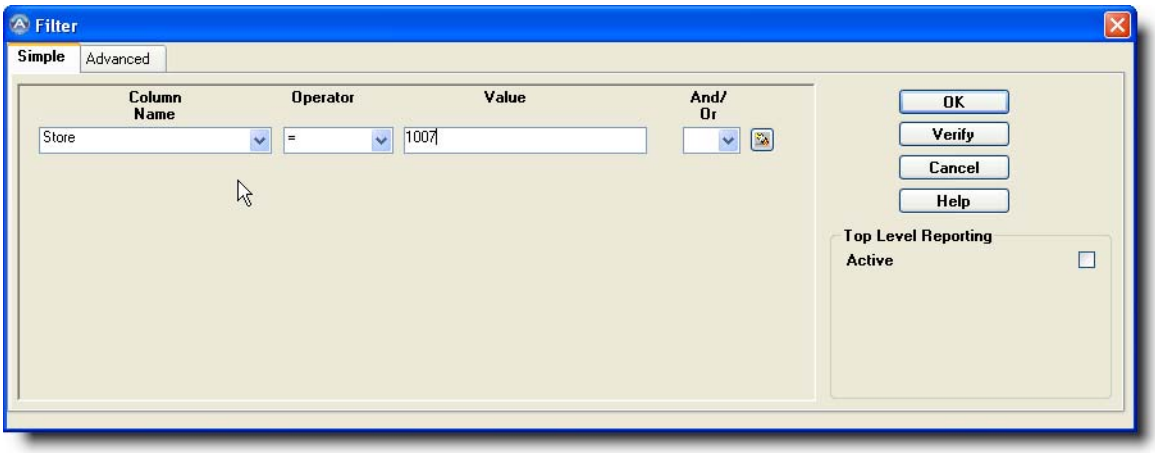


Figure 4-3: Filter - Simple

> If you activated the Top Level Reporting option, the Simple filter is applied first for all of the data and the Top Level Reporting filter is applied next within the filtered data.

Combining Filters

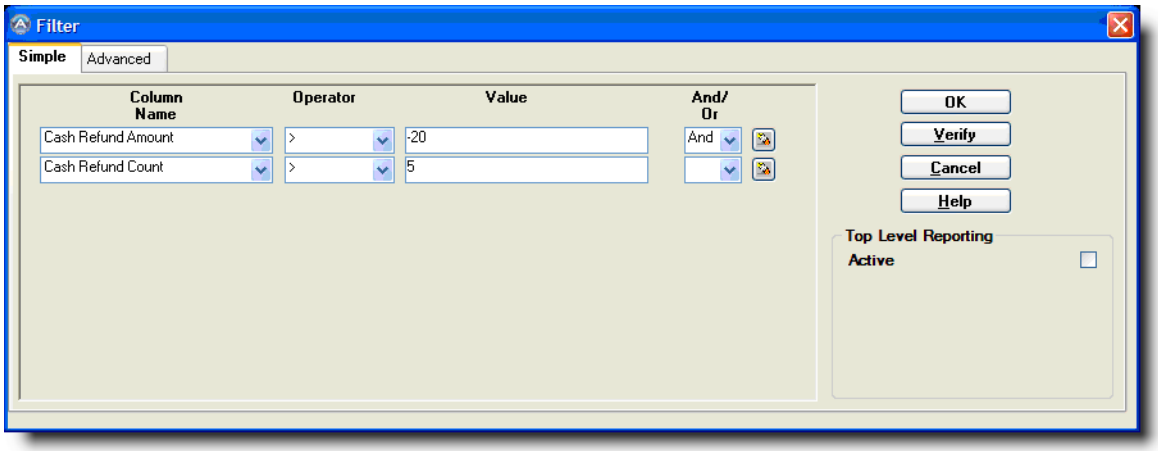


Figure 4-4: Filter - Multiple

Filtering on Lookup Values

Report columns such as tender types, reason codes, and swipe flags are often listed in Tlog files as cryptic codes. Analytics converts these codes into meaningful text descriptions in your query results using a Lookup. When filtering on a Lookup, the Value field displays a down arrow that allows users to easily select the appropriate options for the filter.

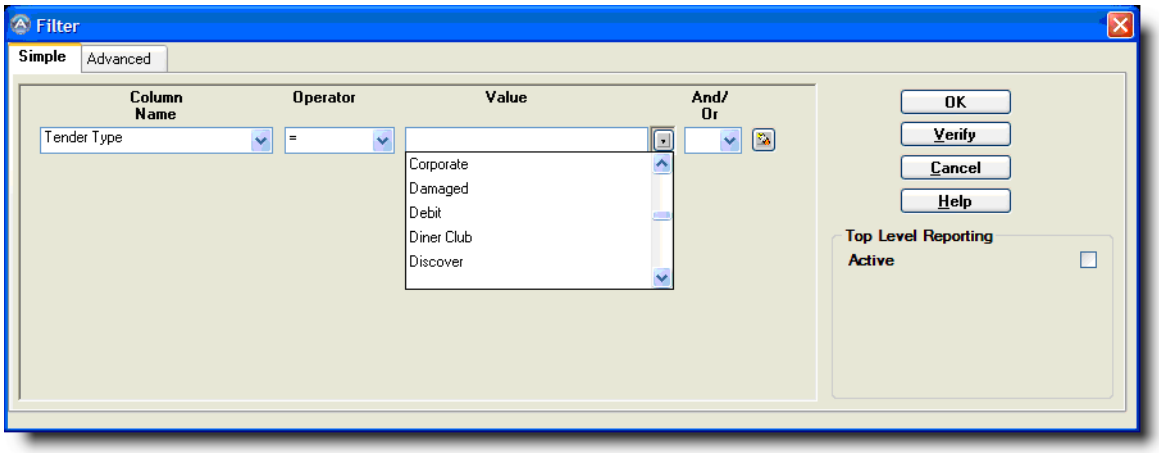


Figure 4-5: Filter - Lookup Values

Clearing a Filter

Once you have created a filter, you can easily re-display the entire query results by clearing any existing filters. *You do not need to take the time to exit your query and re-run it!* Simply click the **Filter** button and then click the **Erase** button (circled below) for each filter that has been created. Once you have cleared all the filters, click **OK**.

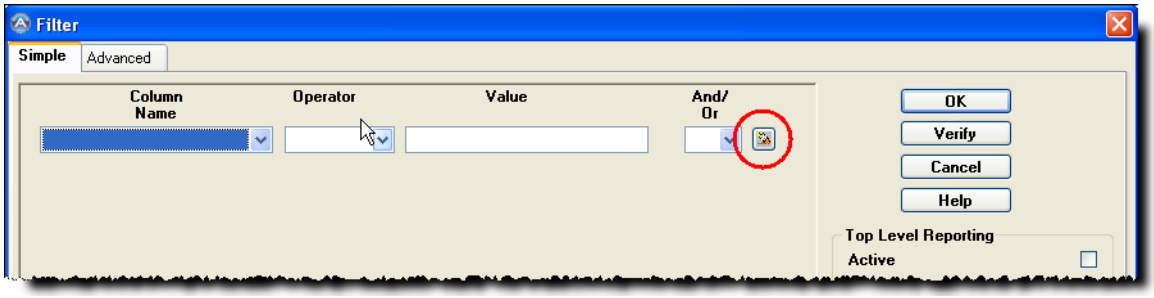


Figure 4-6: Filter - Erase

If you selected **Top Level Reporting** before running a query, this filter can be cleared as well via the Filter function. Deactivate the Top Level Reporting by de-selecting **Active** in the Filter window. All rows of data will be returned to the query results. You can reactivate the Top Level Reporting filter at any time using the Filter function.

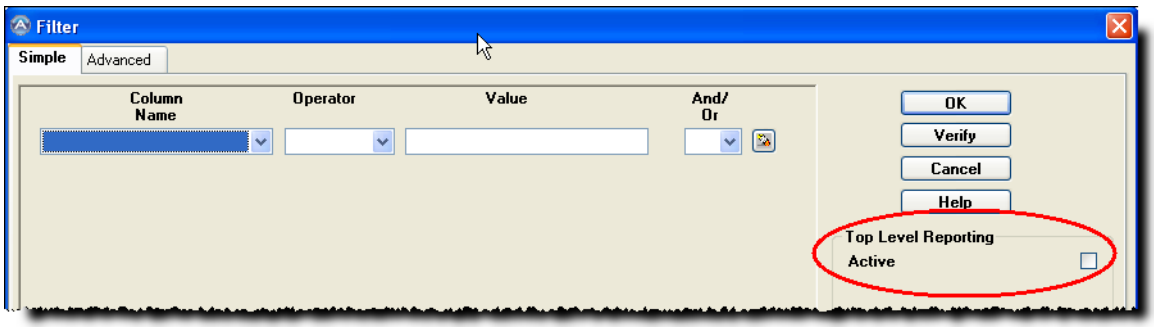


Figure 4-7: Filter - Top Level Reporting

Building Advanced Filters

You can filter data that displays on a query in order to hide rows on the query and display only those records you are interested in. Only data that meets the criteria of a filter appears in the query results. If you selected Top-level Reporting when you originally ran the query, the option will be active in the **Filter** dialog box. You can deactivate it at this time and create a new filter for all the data, or you can leave it active and create a filter on the Top X records only. If you create a filter with the Top-level reporting active the application will first filter all the data based on the filter you created then it will apply the Top level reporting criteria within the filtered data.

> The number of rows returned may exceed the number you entered in the Top-level Rows box.

How to Build Advanced Filters

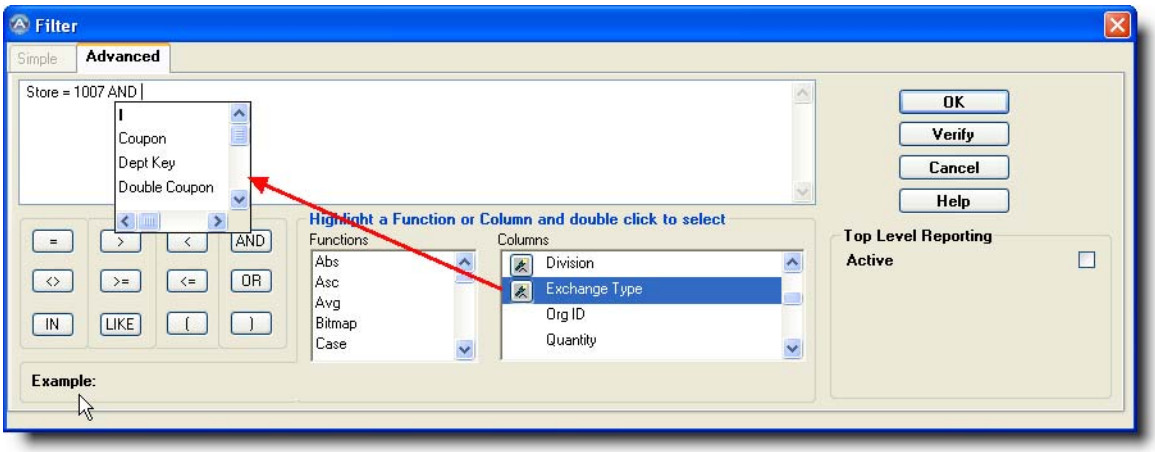


Figure 4-8: Advanced Filter - Lookup Values

1. Click the **Filter** button to filter the results of a query.
2. Select the **Advanced** tab.
3. In the **Columns** area, double click the column name on which you would like to base your filter. It appears in the white text box.
4. Type an expression or click an expression button (=, <, >, >=, in, not in, etc.).
5. Type a value or values to finish the filter. If the field in the **Columns** area is a lookup field, it will have a **Lookup** button next to it. Click this button once to display appropriate options to select (Figure 4-8).

6. **[OPTIONAL]** Enter “AND” or “OR” to add another filter.
7. **[OPTIONAL]** Repeat steps 2 - 4 to complete this additional filter.
8. **[OPTIONAL]** Activate **Top Level Reporting**.
9. Once you have created all desired filters, click **OK**.

Common Filters

This Filter ...	Reports This Information:
Store number = 11	Store 11 only.
Store number in (4, 6, 39)	Stores 4, 6, and 39
Refund amount < -150	Refunds over $150.
Goal % > 5%	All Stores, regions, or districts that exceeded their goal dollars by more than 5%.
Trans Date > 10/01/08	Transactions after October 1, 2008.

Some of the most common filtering commands are:

<>	Not equal to
=	Equal to
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to
In ()	Used to list a group of valid values **Example:** Store number in (1,5,7,8). Note that parentheses are used around multiple values.
Not In ()	Used to exclude a group of values **Example:** Store number not in (2,3,4,6). Note that parentheses are used around multiple values.
Between	Used to specify a range of valid values. **Example:** Store number between 1 and 8.
Like	Used as a wild card to return similar values **Example:** SKU like 123% would display all SKUs beginning with 123 and ending with anything.

Not Like	Used as a wild card to exclude similar values **Example:** SKU not like 123% would return all SKUs that did not begin with 123.
And	Used to combine filters. Each row that appears on the query must meet the criteria of each filter combined with And. **Example:** Refund_amount < - 50 and Store num = 16 would return all refunds greater than $50 that occurred in Store 16.
Or	Used to combine filters. Each row that appears on the query must meet the criteria of at least one filter combined with OR. **Example:** Store num = 3 or Store num = 16 would return all rows from Store 3 and Store 16.

Combining Filters

You can combine filters to further narrow down data. You can use the “AND” or “OR” statements in a filter. Depending on which you use will determine on how much data is retrieved.

Connecting Filters by AND

In order for data to appear on your query, it must meet the criteria of *ALL* filters connected by “and”.

If you create a filter like this:

Store = 15 AND number of units > 10

These lines *would* appear on your report:

Store	Trans Date	Number of Units	Total Amount
15	1/1/08	**11**	$2200
15	1/2/08	**15**	$1500

These lines *would not*:

Store	Trans Date	Number of Units	Total Amount
15	1/1/08	**10**	$1000
20	1/2/08	**15**	$1500

Connecting Filters by OR

In order for a line to appear on your report, data must meet the criteria of *at least one* filter connected by or.

If you create a filter like this:

Store = 15 OR number of units > 10

These lines *would* appear on your report:

Store	Trans Date	Number of Units	Total Amount
15	1/1/08	**11**	$2200
15	1/1/08	**8**	$800
18	1/2/08	**12**	$3600

These lines *would not*:

Store	Trans Date	Number of Units	Total Amount
5	1/1/08	**10**	$1000
20	1/2/08	**5**	$1500

SMART LINKS

Smart links provide additional detailed information about specific fields, which are displayed in a pop up window. As you move the mouse over data results in a query, a shadow box will display over Store, Cashier and/or Register number. Right-click the shadow box and a pop up window will display detailed information from the Store, Employee and/or Register master files for the corresponding field. If your environment is configured to do so, you can also link directly to an Adhoc details query from the Account number and Transaction number fields when available by right clicking when the shadow box appears.

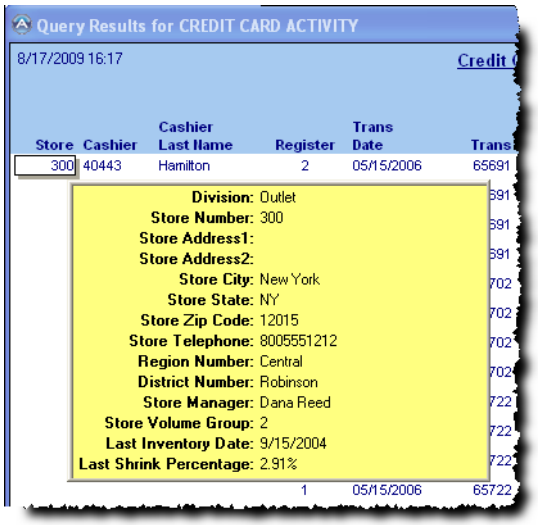


Figure 4-9: Smart Link for Store

Linking Between Adhocs

Linking allows users to review associated queries based on the results of another query.

When reviewing query results, users can link to another query if the **Link** 

button is displayed on the **Window** toolbar. If the **Link** button is displayed, it indicates that at least one linked query has been defined for the selected query. Queries can be linked to each other if there is at least one common field shared between them.

Linking Between Queries

How to Link to Another Query

1. Double-click a row in your query.

   If there is only one link for the query, the linked query is automatically displayed.

2. If there is more than one link, a dialog box listing the links is displayed.

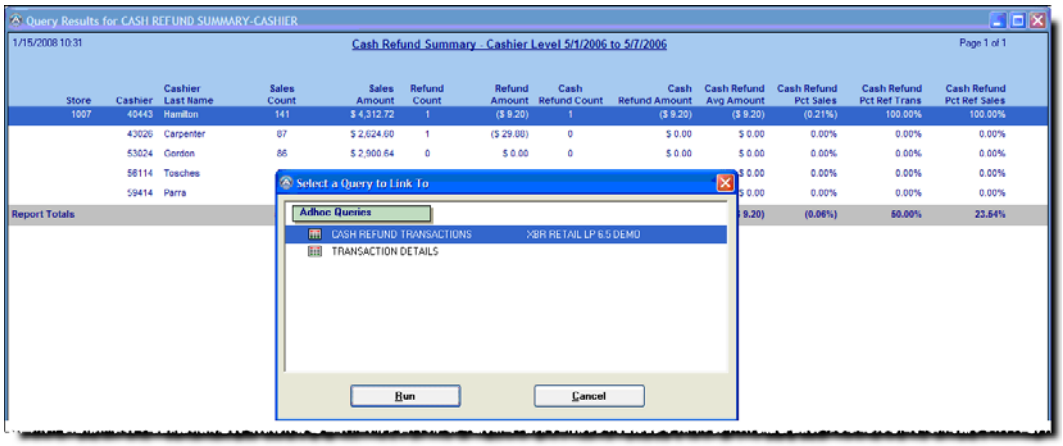


Figure 4-10: Query with Multiple Links

3. Select the query to link to. The information within the selected row will be represented in the linked query.

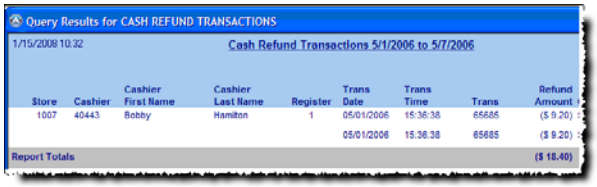
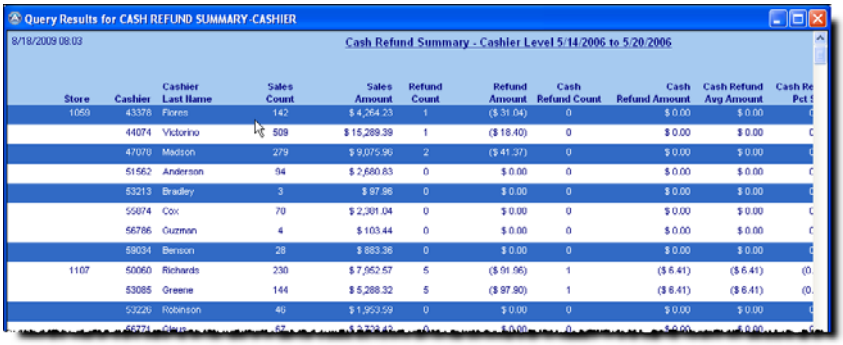


Figure 4-11: Linked Query

Link on Multiple Rows That are Non-adjacent

1. Click in the first row that you would like to investigate.
2. Hold the **[Ctrl]** key down while you click each additional row that you would like to investigate.



Store	Cashier	Cashier Last Name	Sales Count	Sales Amount	Refund Count	Refund Amount	Cash Refund Count	Cash Refund Amount	Cash Refund Avg Amount	Cash Re Pct
1059	43378	Flores	142	$ 4,264.23	1	($ 31.04)	0	$ 0.00	$ 0.00	0
	44074	Victorino	509	$ 15,289.39	1	($ 18.40)	0	$ 0.00	$ 0.00	0
	47078	Madison	279	$ 9,075.96	2	($ 41.37)	0	$ 0.00	$ 0.00	0
	51562	Anderson	94	$ 2,680.83	0	$ 0.00	0	$ 0.00	$ 0.00	0
	53213	Bradley	3	$ 97.96	0	$ 0.00	0	$ 0.00	$ 0.00	0
	55874	Cox	70	$ 2,381.04	0	$ 0.00	0	$ 0.00	$ 0.00	0
	56786	Guzman	4	$ 103.44	0	$ 0.00	0	$ 0.00	$ 0.00	0
	59034	Benson	28	$ 883.38	0	$ 0.00	0	$ 0.00	$ 0.00	0
1107	50060	Richards	230	$ 7,952.57	5	($ 91.96)	1	($ 6.41)	($ 6.41)	(0.
	53085	Greene	144	$ 5,288.32	5	($ 97.90)	1	($ 6.41)	($ 6.41)	(0.
	53226	Robinson	46	$ 1,953.59	0	$ 0.00	0	$ 0.00	$ 0.00	0

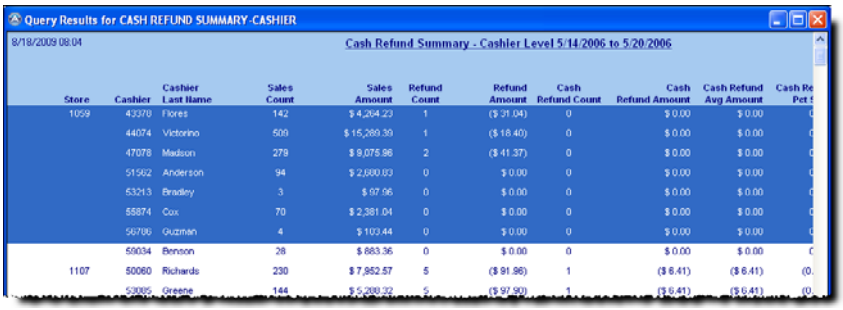
Figure 4-12: Multiple Non-Adjacent Rows

Release the **[Ctrl]** key when the last row has been selected.

3. Click the **Link**  button.

Linking on Consecutive Rows

1. Click in the first row that you would like to investigate.
2. Hold the **[Shift]** key down as you click the last row in the list that you would like to investigate.



Store	Cashier	Cashier Last Name	Sales Count	Sales Amount	Refund Count	Refund Amount	Cash Refund Count	Cash Refund Amount	Cash Refund Avg Amount	Cash Re Pct
1059	43378	Flores	142	$ 4,264.23	1	($ 31.04)	0	$ 0.00	$ 0.00	0
	44074	Victorino	509	$ 15,289.39	1	($ 18.40)	0	$ 0.00	$ 0.00	0
	47078	Madison	279	$ 9,075.96	2	($ 41.37)	0	$ 0.00	$ 0.00	0
	51562	Anderson	94	$ 2,680.83	0	$ 0.00	0	$ 0.00	$ 0.00	0
	53213	Bradley	3	$ 97.96	0	$ 0.00	0	$ 0.00	$ 0.00	0
	55874	Cox	70	$ 2,381.04	0	$ 0.00	0	$ 0.00	$ 0.00	0
	56786	Guzman	4	$ 103.44	0	$ 0.00	0	$ 0.00	$ 0.00	0
	59034	Benson	28	$ 883.38	0	$ 0.00	0	$ 0.00	$ 0.00	0
1107	50060	Richards	230	$ 7,952.57	5	($ 91.96)	1	($ 6.41)	($ 6.41)	(0.
	53085	Greene	144	$ 5,288.32	5	($ 97.90)	1	($ 6.41)	($ 6.41)	(0.

Figure 4-13: Multiple Adjacent Rows

3. Click the **Link**  button.

- When linking, you will go *directly to the next query* if there is only ONE query to link to.
- When there is a choice of queries to link to, *a selection list is displayed* similar to the one below. Double-click the query you would like to run or select it and click the **Run** button.

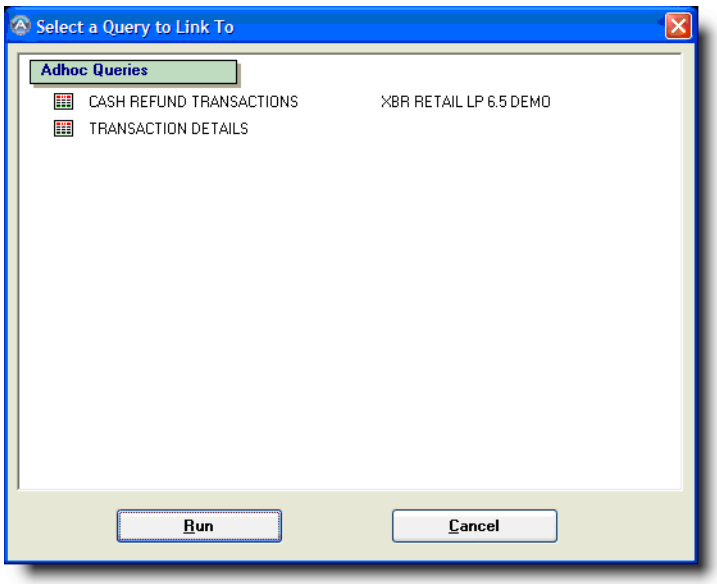
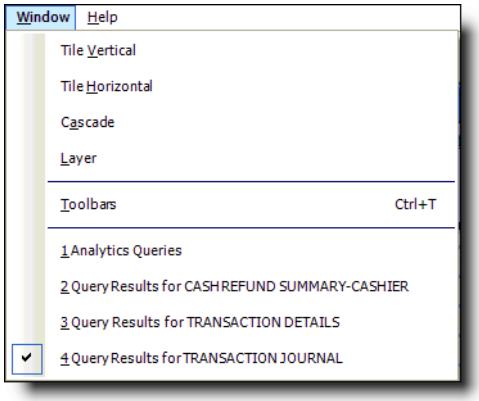


Figure 4-14: Multiple Queries

- Depending on the options defined for the link, *you may be prompted for a date range or criteria* for the linked query.
- The *linked query results display in their own window* separate from the original query results window, you can use the Window menu on the System toolbar to switch back and forth between the queries. The queries are listed in the order they were run.
- The linked query results have the same functionality as the original results, including sort, filter, print, export, and the ability to link to additional queries.
- Close the results window or press the **[Esc]** key *to exit from a linked query* and return to the original query.



LINKING TO VIDEOS

Review Video

There are two ways a transaction video can be reviewed: Archive Video or the Video Queue.

Video Queue

Use the following steps to review a transaction video in the Video Queue:

1. Select **Video Queue** from the Options menu.
2. View a transaction video by:
   - Double-clicking a video shortcut, or
   - Selecting a shortcut and clicking **Run Video** in the side toolbar, or
   - Selecting a shortcut and selecting **Run Video** from the Options menu.

   The video will be run using the third party video viewer and it runs for the time frame that is listed on the shortcut.

   The start time and/or end time can be changed to view a clip before the transaction began and/or after the transaction was rung.

   Closing the Video Queue without saving erases all shortcuts currently in the queue. Re-running the query restores access to the Video Link.

Video Archive

Use the following steps to review a transaction video in the Video Archive:

1. Select **Video Archive** from the Options menu.
2. View a transaction video by:
   - Double-clicking a video shortcut, or
   - Selecting a shortcut and clicking **Run Video** in the side toolbar, or
   - Selecting a shortcut and selecting **Run Video** from the Options menu.

   The video will be run using the third party video viewer and it runs for the time frame that is listed on the shortcut.

Video Queue

The video queue can be used to temporarily save shortcuts to transaction videos or to review transactions. Video shortcuts can also be archived from the video queue. Each user that reviews transactions has his/her own video queue.

1. To further investigate suspicious looking transaction(s), review a video link by either:

- Double-clicking a single transaction, or
- Using the **[Ctrl]** key to select multiple transactions and then clicking **Link** on the side toolbar.

The system displays the Select a Query to Link To window.

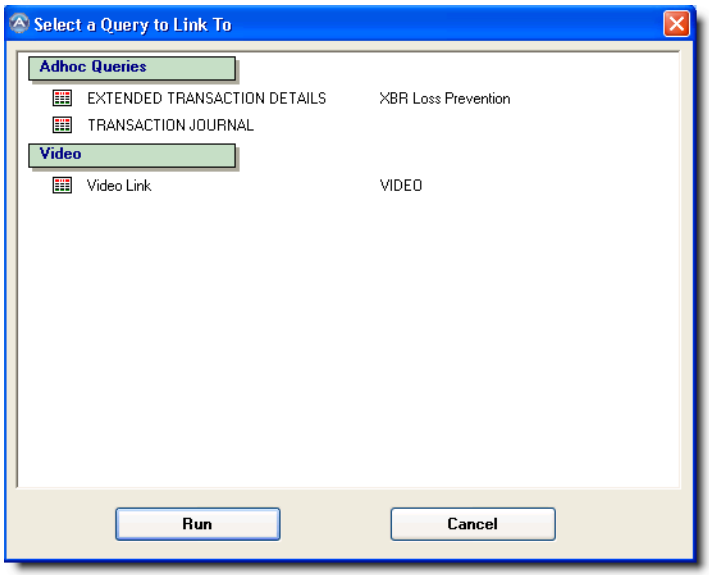


Figure 4-15: Selecting Transactions to Review a Video Link

2. Double-click **Video Link** to display the Video Queue. Each line is a shortcut to the related video for the transactions selected, where:

- *Start time* = The start time of the transaction captured by POS. Enter a start time prior to the transaction to begin the video before the transaction began.
- *End time* = The end time of the transaction. The system calculates the end time when POS does not capture it. Enter an end time later than the transaction end time to review video after the transaction was rung.
- *Video run* = **Y** displays after a video has been reviewed in the queue.
- *Video site and camera* = A register is matched to a store using Table Editor. A video site is matched to a camera number.

> Camera information is maintained by the System Administrator in the Table Editor program.

3. If desired, the Start and Stop Times can be changed.

a. Click in the field to be changed.

b. Make the desired change.

c. Click Save in the side toolbar to save the changes.

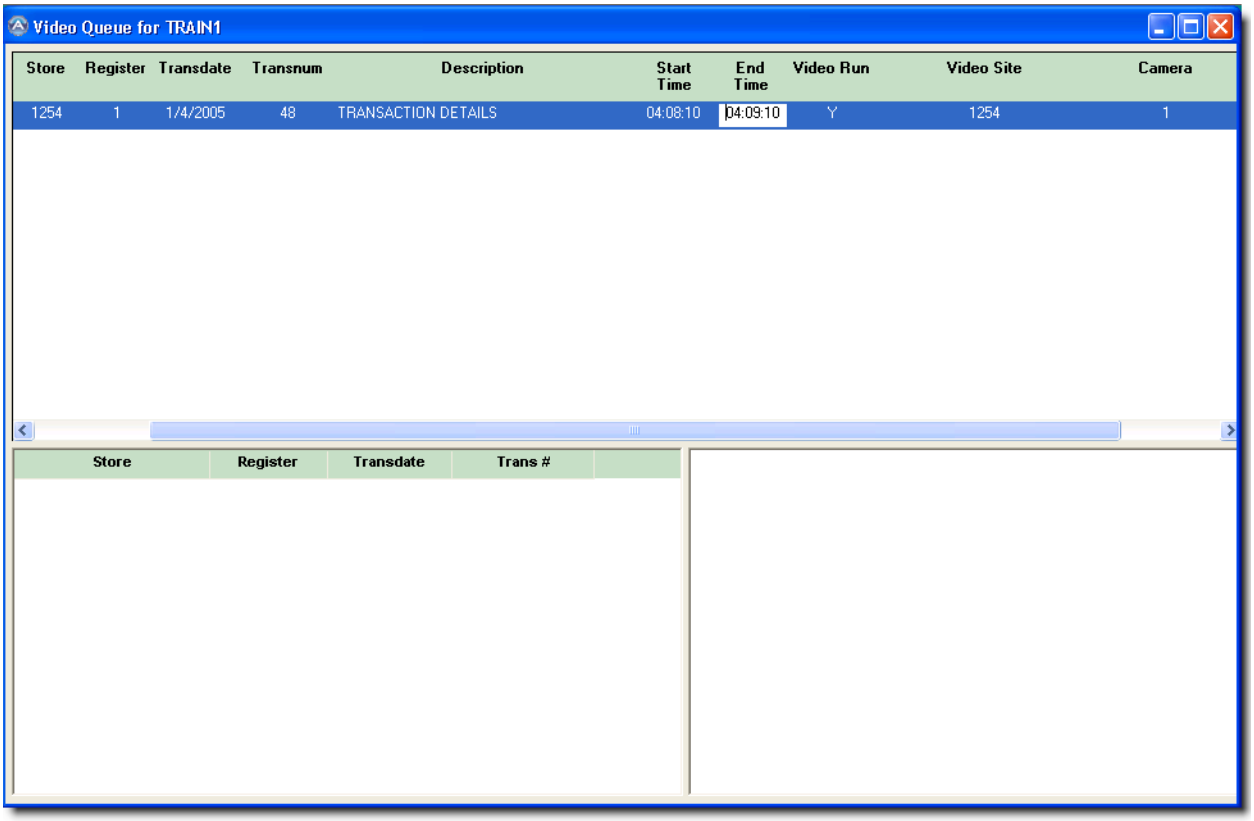


Figure 4-16: Video Queue - Shortcuts to Transaction Videos

Transaction details can be viewed by clicking **View Detail** in the side toolbar or selecting **View Detail** from the Options menu.

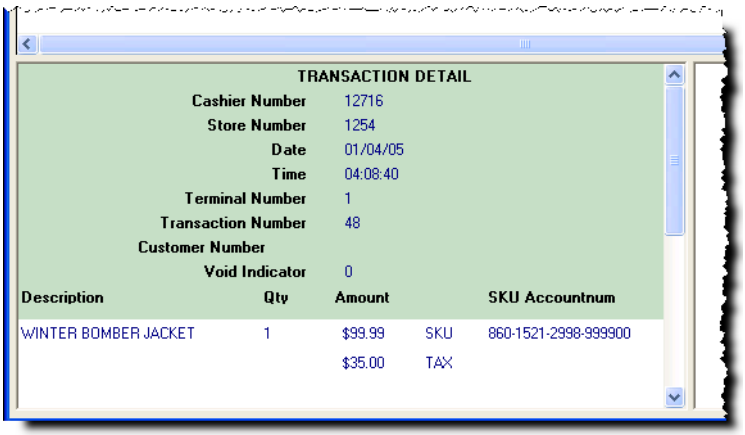


Figure 4-17: Video Queue - Transaction Details

Side Toolbar Functions

There are several functions available on the side toolbar when working in the Video Queue.

Function	Description
Close	Closes the Video Queue window.
Export	Exports the current shortcut list to file formats such as XBR Report Viewer, Excel, or HTML.
Print Preview	Displays how the Video Queue would print.
Options	Contains print options such as margin settings, page layout, and a zoom percentage.
Sort	Sorts the video shortcuts by single or multiple columns in ascending or descending order. The Video Queue can be sorted by a single column in ascending order by clicking once on a column heading. Click the column heading again to sort in descending order.
Filter	Allows a user to focus on specific shortcuts in the queue while hiding others.
*** Run Video**	Accesses the video for the highlighted shortcut.
*** Archive**	Saves video shortcuts for a time defined by the user.
*** Save**	Saves the Video Queue with any shortcuts currently displaying.
*** Delete**	Removes a selected shortcut from the Video Queue.
*** View Detail**	Displays Transaction Detail for the selected shortcut.

***** These functions are also available in the Options menu.

Temporarily Saving the Video Queue

When you review a video that you would like to access later in the same day, you can save the Video Queue containing all shortcuts. The Video Queue can also be used to save video clips that have not been examined yet. You should delete unnecessary shortcuts before saving the queue.

> This is a temporary save; the system automatically clears the queue during processing.

To temporarily save the video queue:

- Click **Save** in the side toolbar, or
- Select Save from the Options menu, or
- Close the Video Queue and click **Yes** when asked if the changes should be saved.

To re-access the video shortcuts, select **Options > Video Queue** from the menu.

Managing the Video Archive

When gathering information for an investigation, you can save all supporting materials for an extended period of time. Instead of re-running queries and linking to the related video, you can use the **Archive** feature.

The **Archive** feature allows you to define how long the system retains shortcuts in the Video Queue.

Archive a Video Shortcut

1. Select **Options → Video Archive** to open the Video Archive for the current user.
2. Select the video shortcut in the Video Queue and click **Archive** on the side toolbar to advance to the Analytics Video - Comments window.

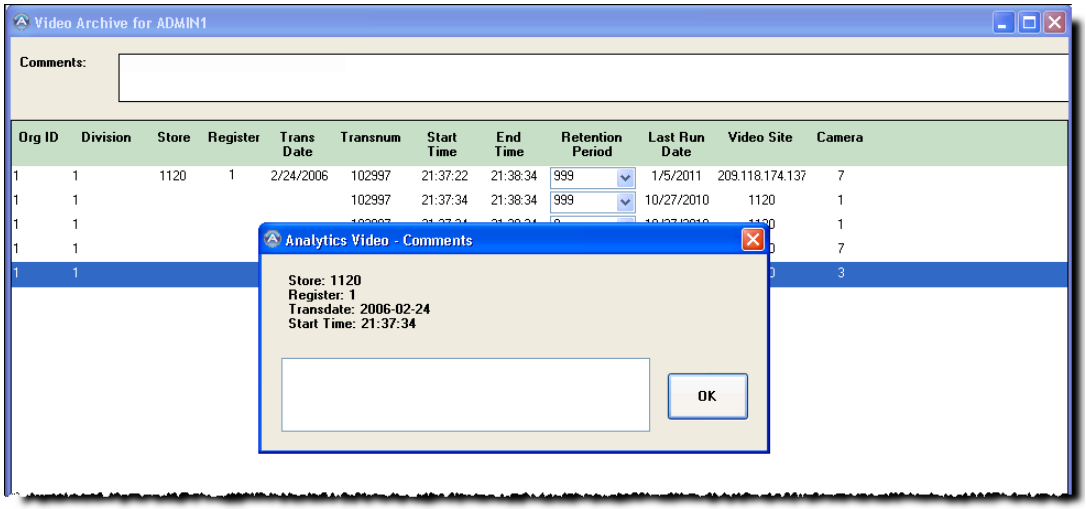
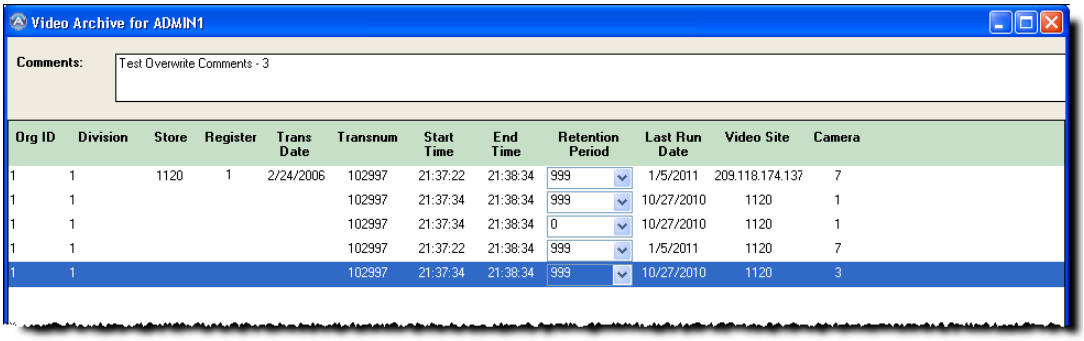


Figure 4-18: Analytics Video - Comments Window

3. Enter a shortcut description to identify the archived shortcut at a later time and click **OK**.

   The Comments window will close and the comments entered will be displayed in the Comments block of the Video Archive window.



Org ID	Division	Store	Register	Trans Date	Transnum	Start Time	End Time	Retention Period	Last Run Date	Video Site	Camera
1	1	1120	1	2/24/2006	102997	21:37:22	21:38:34	999	1/5/2011	209.118.174.137	7
1	1				102997	21:37:34	21:38:34	999	10/27/2010	1120	1
1	1				102997	21:37:34	21:38:34	0	10/27/2010	1120	1
1	1				102997	21:37:22	21:38:34	999	1/5/2011	1120	7
1	1				102997	21:37:34	21:38:34	999	10/27/2010	1120	3

Figure 4-19: Save Archive Area

4. In the Archive area, you can define the **Retention Period** or the length of time in days the system should retain the video shortcut.
5. Click **Save** in the side toolbar to save any changes.
6. Click **Close** to close the Video Archive window.

> Saving the actual video is handled by the third party video provider.

Delete a Video Shortcut

1. Select **Options → Video Archive** to open the Video Archive for the current user.
2. Delete the shortcut by:
   - Selecting a shortcut and clicking **Delete** in the side toolbar, or
   - Selecting a shortcut and selecting **Delete Video** from the Options menu.

   The shortcut will not be immediately deleted, the Retention Period will be set to “0”. The shortcut will be deleted in the next nightly processing.

MY REPORTS WINDOW

The My Reports window displays the Adhoc reports which were designated to be run Offline when running a query from the Run dialog box or that had been scheduled and assigned to the window. The **Source** column displays from where the report was run from either Offline or Scheduled. See the Automating Queries section for more information about scheduling Adhocs and assigning to the My Reports window.

Once a query is run offline the report is displayed on the My Reports window.

> If you do not see the report listed click the **Refresh** button. It may take a few minutes for the report to run offline and display in the window. A process runs on the server all the time that checks to see if queries are waiting to be run offline. The time interval that kicks off this process may be set to 5 or 10 minutes or more depending what was setup during installation of Analytics. Check with your System Administrator if your reports are not displaying in a timely manner.

Click the **My Reports** icon. Once the results are run and displayed in this window the data is saved within the database so you can review the results anytime without rerunning the query.

View the results of a Query run Offline

1. Double-click on a report or select a report and click the **Review** button to display the results. The report will not open if No Records or Error is displayed in the Status column. No Records indicates that none of the data met the criteria you set to run the query. Error indicates there was an error when running the query. Either you can try to rerun the query with the same criteria or adjust the criteria and run the query again.

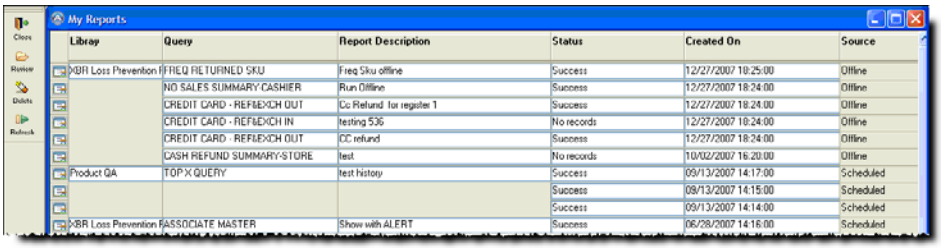
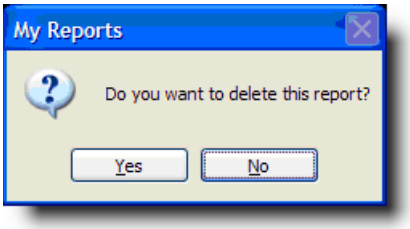


Figure 4-20: My Reports Window

2. All the features to manage query results are available in the results window. Close the report when you are done. You will be brought back to the **My Reports** window. The report will be available to you to review until you decide to delete it.

Delete reports from the My Reports Window



1. Click the **Delete**  button to delete a report you do not need to review in the future. This will help to keep your My Reports window organized. Each user has their own My Reports window and is responsible for maintaining the contents.
2. You will be asked if you want to delete the report. Click **Yes** if you do.

PCI REQUIREMENTS

According to Payment Card Industry (PCI) requirements; credit card, debit card and bank account information must be secured. Analytics enables customers' to achieve PCI compliance without compromising existing functionality. PCI compliancy is determined by how sensitive data is stored in a database. Raw account numbers are no longer allowed to be stored on the database and therefore, need to be masked, hashed, and/or encrypted.

Analytics provides:

- Masking account numbers
- Hashing account numbers.
- Raw account number lookup (requires a hashed value but not encrypted).
- Encrypting account numbers (optional).
- Decryption (obtain raw account number) by authorized users and only if MICROS-Retail encryption is implemented.
- Ability to change a user password from the front end instead of the in the database.

Secure Account Numbers

When you run an account driven report, such as Credit Card Activity, the account number will be displayed as masked values. If you have chosen to encrypt account numbers using MICROS-Retail's solution, you will be shown the tools needed to decrypt account numbers. A user will need authorization from the Analytics System Administrator to decrypt account numbers. The System Administrator sets the decrypt option in the users profile (refer to the Security section for details). Given authorization to decrypt will also allow the user to look up a raw account number through retrieving the equivalent hashed value which is the account number's unique identifier.

Hashed and Masked Account Numbers

Masking an account number means that certain digits will be 'blocked out' in order to protect the account number. PCI requirements state that up to the first 6 and last 4 digits of an account # can be displayed. Customers can select to display the maximum or less. For example:

- 123456XXXXXX1234 (1st 6, last 4 digits displayed)
- XXXXXXXXXXXX1234 (only last 4 digits displayed)

The mask value generated in XBR will be the same length as the original account number. For example a 15-digit Amex account number will result in a 15-digit mask value versus a 16-digit Visa account number.

An example of a masked account number in a report appears below:

Query Results for CREDIT CARD SALES (MULTI USE)

4/23/2007 14:02 Credit Card Sales (Multi Use) 2/27/2007

Account Number	# of Uses	Net Amount
XXXXXXXXXXXX9906	2	$37.35
XXXXXXXXXXXX9751	2	$18.25
XXXXXXXXXXXX9637	2	$96.30
XXXXXXXXXXXX9509	2	$175.89
XXXXXXXXXXXX9380	2	$27.83
XXXXXXXXXXXX9030	2	$34.91
XXXXXXXXXXXX9013	2	$41.47
XXXXXXXXXXXX9012	2	$83.29
XXXXXXXXXXXX8926	2	$330.39
XXXXXXXXXXXX8773	2	$45.56
XXXXXXXXXXXX8740	2	$0.00
XXXXXXXXXXXX8702	2	$49.12

Figure 4-21: Masked Account Numbers

A hashed value is used, in addition to masking, to generate the unique representation of an account number because the mask is not a unique value. This ensures continued use of the multi-use reports available in Analytics.

An example of a hashed account number appears below. This field is usually hidden for display purposes, but can be displayed and even used to pre-filter query results.

Query Results for CREDIT CARD SALES (MULTI USE)

4/23/2007 14:02 Credit Card Sales (Multi Use) 2/27/2007

Account Number	Hashed Account Number
XXXXXXXXXXXX9906	F9D38C9B4095E4554E83EF5A9891F70DF14263FA
XXXXXXXXXXXX9751	97FF88B5F1CF65513DB6B89B3BE9ACA8C5635EC3
XXXXXXXXXXXX9637	A5E3DCAFC59D32E472768C7FE78700AEC18E74A5
XXXXXXXXXXXX9509	2C6F070D8086B8A3883E26F3DE0DCCD252ACC88C
XXXXXXXXXXXX9380	D8A132E659FCE9C80C1DB1FFB30F56CD314C7528
XXXXXXXXXXXX9030	305BBDCCB4F70ECF12DC2ABA6B56C48FCF62354F
XXXXXXXXXXXX9013	8622C3A49D13ED579BC67C4A4652A20ED3FFFC5F
XXXXXXXXXXXX9012	A1757D205170310B8618EF8329F8519E73021EA4
XXXXXXXXXXXX8926	FC4A6C8EA222E79D37E7EC541100C066179FB79E
XXXXXXXXXXXX8773	9B1BC74ED2E81D3D3F0D1DDFD3D5F76CE847CDDA
XXXXXXXXXXXX8740	4FDE8C40151C117C173FCAEC062B3120FE2D1CBD
XXXXXXXXXXXX8702	1C4F9077C57867A25C1B7579FF6F1CE7070DEE60

Figure 4-22: Hashed Account Numbers

Account Number Encryption / Decryption

Encryption/Decryption within Analytics is optional. Encryption allows for decryption of account numbers (obtaining the raw account number). Account number decryption will exist only if a customer implements MICROS-Retail's encryption solution.

Only users with authorized access will have the ability to decrypt an account number within the Analytics reports. The decryption function can be accessed when viewing query results that contain the following fields:

- Store
- Transaction #
- Trans Date
- Account number
- Encrypted Account number (hidden field)
- Encryption Key ID (hidden field)

When a user (with applicable permissions) right-clicks a record in the query results, a **Decrypt Account Number** option will display.

Figure 4-23: Decrypt Account Number Option

Upon selecting the **Decrypt Account Number** option, a pop up window will appear with the decrypted value. The decrypt pop up window has a customer-defined time out (for example, 60 seconds). An audit log is maintained in the database detailing which user has accessed the decrypt functionality as well as all related transaction information.

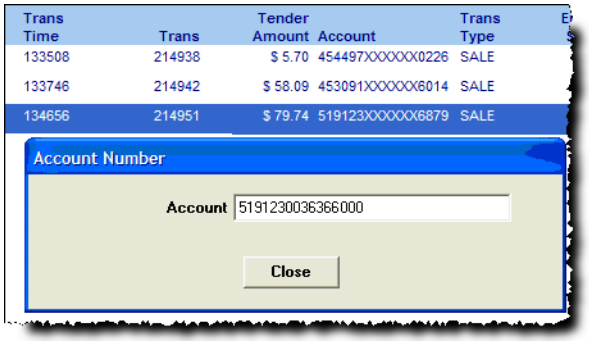


Figure 4-24: Decrypt Account Number

Account Number Lookup

For users who wish to search for activity on a specific account number, there is an account number lookup option within the **Tools** menu. A user can enter a specific account number and the equivalent hashed value will be returned. The hashed value can then be entered as search criteria when running a query or when filtering on query results. No encryption is required for the Account Number Lookup functionality.

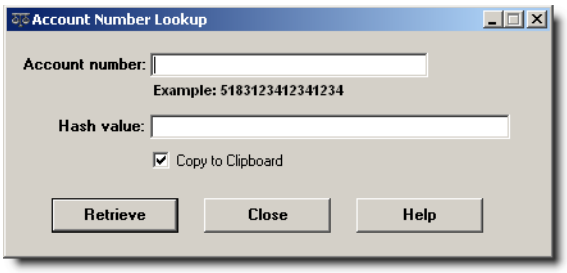


Figure 4-25: Account Number Lookup

The Account Number Lookup window has a customer-defined time-out (for example, 60 seconds) before it automatically closes. The **Copy to Clipboard** option is automatically selected allowing the user to then paste it where needed, for example, in the query prompt criteria when running a query or in a filter window.

C H A P T E R 5

Design Mode for Adhocs

OVERVIEW

Design mode allows users to change the appearance of a query. Although all users can make temporary changes, only users with System Administrator or System Manager security, query owners, and analysts who have built their own queries can make permanent appearance changes to a query.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Change query titles
- Reorder columns
- Format fields in the Field Properties window
- Hide and Unhide columns

MAKING BASIC CHANGES IN DESIGN MODE

Analytics users can use **Design Mode** to make temporary changes to the appearance of a query. In Design Mode, you can:

- hide/unhide columns
- change column widths
- change the column order in a query
- change the name of column headings
- change a query title

Users often access this feature to tweak a query prior to printing, emailing, or exporting query results.

How To Access/Exit Design Mode

1. After running a query, click the **Design** button on the **Window** toolbar. You are now in Design Mode, where you are able to modify queries without opening them.

> When clicked, the **Design** button is activated or displays lighter than the other buttons and the column headings are outlined by a thin, black rectangle (see Figure 5-1).

2. Select the column you would like to modify. When selected it will be outlined by a white rectangle (see Figure 5-1).
3. Right-click over the column; a shortcut menu appears with a list of options to choose from.

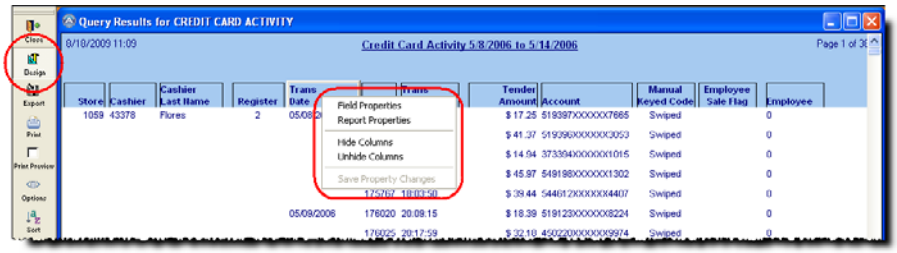


Figure 5-1: Sample Design Mode Screen

4. To exit Design Mode, click the **Design** button again.
5. If asked if you would like to save your changes, click **Yes**.

All users have access to the Design Mode; however, only the owner of a query or System Administrators can make *permanent* changes using this feature. Other users are able to make temporary changes to a query using Design Mode.

Changing a Report Title

In Design Mode you can update the Report Title to better reflect the information displayed on a report once the query has been modified. This feature is used frequently to reflect information that has been filtered.

How To Change A Report Title

1. Click the **Design** button.
2. Right-click anywhere in the report and select **Report Properties**. The Report Properties dialog box is displayed.

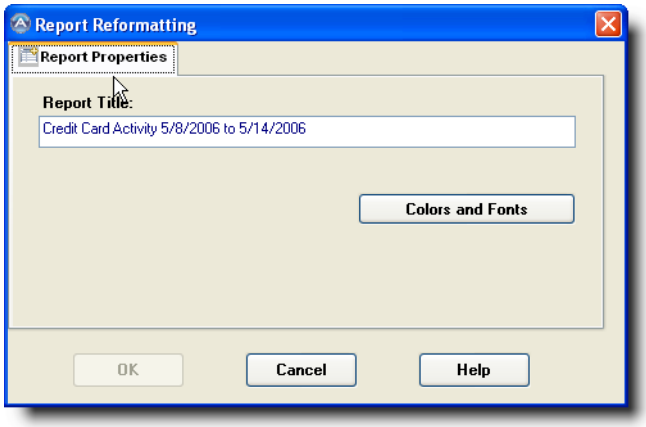


Figure 5-2: Report Properties Dialog Box

3. Change the **Report Title** as needed.
4. Click **OK**.

Rearranging Query Columns

You may want to move columns so you can see certain data adjacent to each other. Use your mouse to drag any column to a new location in a query. The column will move to the area where the mouse is pointing just before you drop it in place.

How To Rearrange Columns

1. Click the **Design** button.
2. Click the column heading you want to move. The column heading will be outlined by a thick, white rectangle.
3. Drag the column and drop it where you would like it to display. As you drag the column you will see a green box which represents the column you are moving.

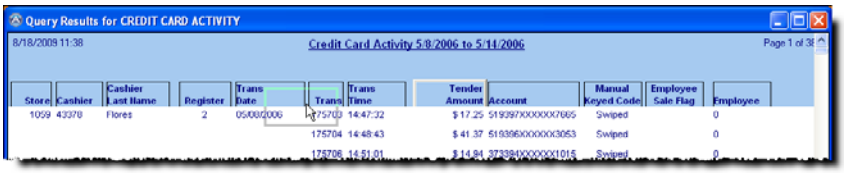


Figure 5-3: Move Query Column - In Process

Use the mouse to point to the location where the column should appear before dropping it in place.

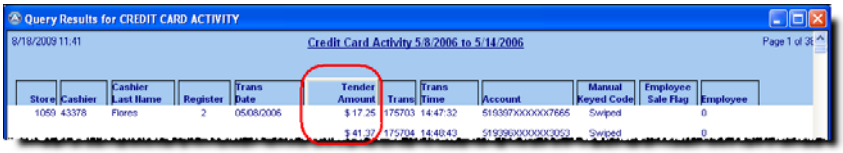


Figure 5-4: Move Query Column - Complete

Formatting Columns

In Design Mode, you can make basic formatting changes such as modifying column headings, column widths, and formats.

How To Format Columns

1. Click the **Design** button.
2. Click the column heading you want to format. To format multiple columns hold down the **[Ctrl]** key and click the column headings you wish to format. The column heading will be outlined by a thick, white rectangle.
3. Right-click over the column heading and select **Field Properties** from the menu.

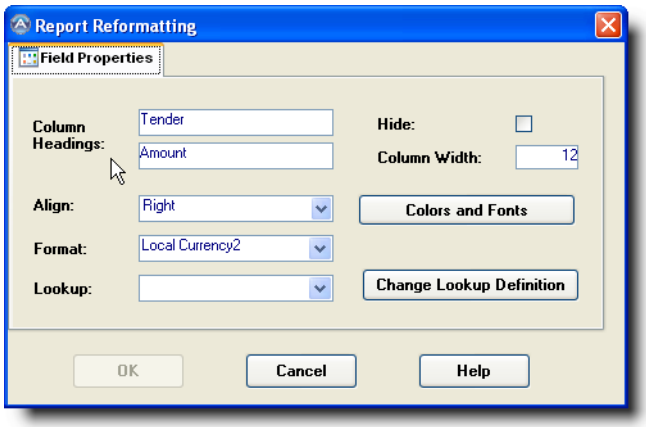


Figure 5-5: Field Properties Dialog Box

4. In the **Field Properties** area, modify column headings; change the alignment, format, and column widths as desired.

Column Headings	Type a one or two-line column heading that will display at the top of the selected column.
Align	Use the arrow to select the alignment for this column (i.e. Left, Right, or Center).
Format	Use the arrow to select the appropriate column format from the list (i.e. 0%, 0.00%, $#,##0.00).
Column Width	Enter the column width for the selected column.

5. Click **OK**.

Working with Lookups

Information such as tender types, swiped and keyed indicators, and reason codes are saved in the database as cryptic codes. These cryptic codes can be translated into a more meaningful text description by using a Lookup in order to display the text descriptions in queries. For example, it is much easier to identify the text “Swiped” in a query rather than the cryptic code of “01”.

The **Field Properties** option in **Design Mode** allows you to assign Lookups to columns or change the Lookup that the column is using. In Design Mode you can access Field Properties by right clicking over a selected column and choosing Field Properties from the shortcut menu.

To assign a Lookup to a column, simply select the desired Lookup from the drop down list as shown below.

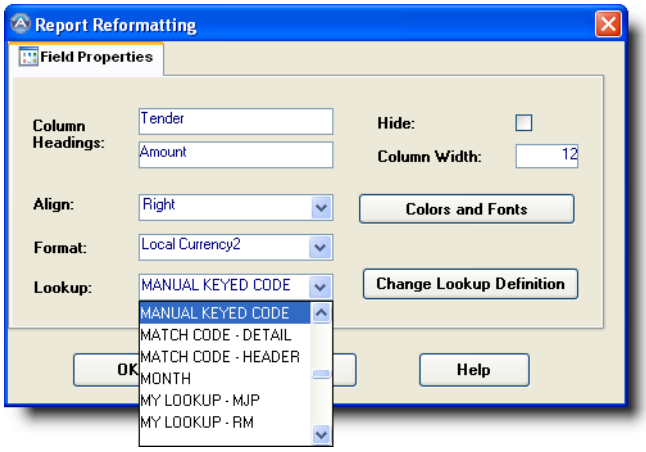


Figure 5-6: Field Properties - Lookup

Design Mode allows **System Administrators** to update the text descriptions that display in your queries for Lookups by using the **Change Lookup Definition** button. For example, instead of seeing that a credit card was 'Keyed', you may prefer to see the text 'Manual'.

If a code displays on a query, it probably has not been added to the appropriate Lookup. The code along with the text description that you would like to see can be updated using this feature.

HIDING AND UNHIDING COLUMNS

In **Design Mode**, you can hide columns you do not want viewed in the query results. If you want to make a hidden column visible, you can unhide the column from the same shortcut menu.

How To Hide Columns

1. Click the **Design** button.
2. Select the column heading you want to hide.

> **TIP** *Multiple columns can be selected by holding down the **[Ctrl]** key while selecting columns.*

3. Right-click over the column heading(s) and select **Hide Columns** from the shortcut menu. The remaining columns will shift to fill in the gap.

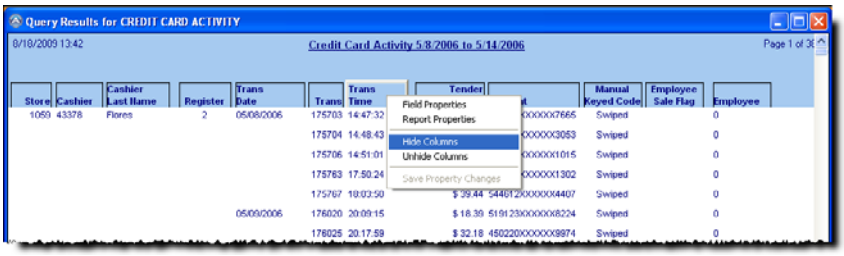


Figure 5-7: Hide Columns

How To Unhide Columns

1. Click the **Design** button.
2. Right click and select **Unhide Columns** from the shortcut menu.
3. From the **Report Formatting** dialog box uncheck the column(s) you want to unhide.

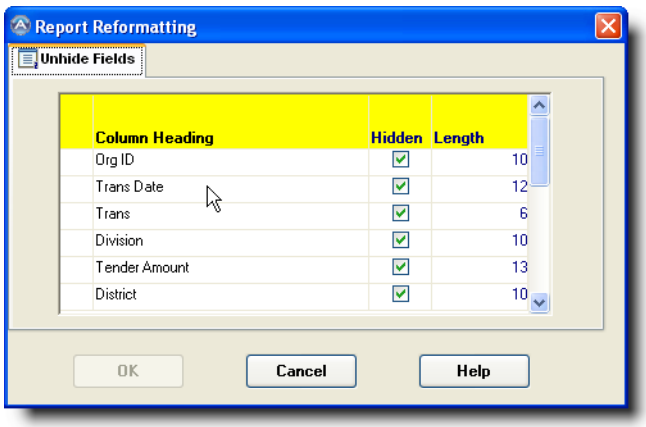


Figure 5-8: Unhide Columns

CHAPTER 6

Print and Export Query Results

OVERVIEW

Adhoc and Drill Down query results are displayed temporarily if they were selected to run immediately and not Offline. Once the results window is closed, the query needs to be run again in order to retrieve the same results. This can be somewhat tedious if you have accomplished a lot of sorting, filtering and appearance changes. The **print and export** functions allow users to retain a permanent record of query results without having to rerun a query again.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Print a query
- Save print options
- Export a query
- E-mail a query on the fly

PRINTING

Before printing query results, you should consider the print options that are available via the **Options** button in the Windows toolbar. It is also recommended that you select the **Print Preview** mode to gain a clear visual as to how the results will be displayed on a sheet of paper.

The **Options** button 

allows you access to preferences such as:

- Portrait or Landscape
- Margin Settings
- Type a custom Report Title
- Increase or decrease the size of the query for display and printing
- Increase or decrease the size of a query in print preview

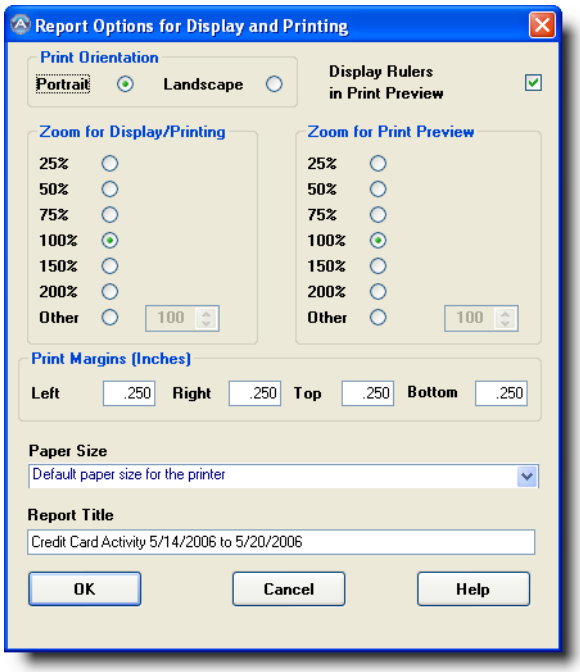


Figure 6-1: Report Options

- Remember to change the Report Title before printing if you have re-sorted or filtered your query results. These features can change the focus of the query and it is helpful to print a Query Title that reflects the actual content.
- To save any printing options you have modified (such as orientation or zoom), select Options, Save Options from the main System menu. This saves your customized print settings for your unique User ID only.
- Changing report titles in the Options section is a temporary change. When you re-run the query, its original title reappears. Therefore saving options does not include saving the new report title.

The **Print Preview** 

button displays the current query results in **Print Preview** mode, which displays how a query will appear as a printed copy. Click the button again to exit **Print Preview** mode.

This option is necessary in order to select the current page or a range of pages option in the Print window.

Unless you are in **Print Preview** mode you cannot select specific pages to print because page lengths are calculated differently for the printer than for the on-screen display. Print Preview will resize the document to printed pages.

The **Print** 

button will display the **Print** dialog box.

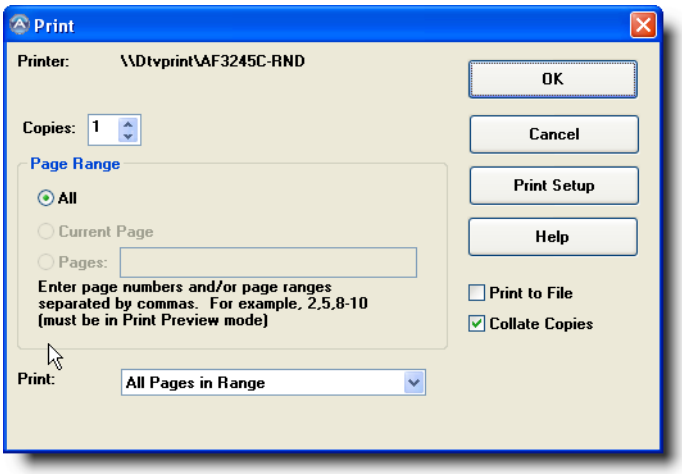


Figure 6-2: Print Dialog Box

Print Option	Description
Copies	Enter the number of copies to print.
Page Range	Print all pages, only the current page, or selected pages. **Users must be in Print Preview mode to use this option**
Print	Print all pages in the range or only the odd or even numbered pages.
Print to File	Send output to a printer or a file. If **Print to File** is selected, you will be prompted for a filename and will need to specify the directory where you want the file saved.
Collate Copies	Collate pages if you are printing multiple copies.

EXPORTING

Exporting allows users to save query results permanently until the file is manually deleted. This feature is a resourceful tool because it allows users to permanently retain Adhoc and Drill Down results without having to re-run a query.

The **Export** 

button exports a query to various file formats. Exporting query results allows you to view information without having to log in to Datavantage Analytics. There are TWO ways to export, either Standard Export or Custom Export:

- Choose Standard Export to save a query in one of the following formats
  - Analytics Report (PSR)
  - Adobe Acrobat (PDF)
  - Comma Separated Values
  - dBase
  - Lotus 1-2-3
  - Microsoft Excel
  - Tab-separated columns
  - Text with HTML formatting
- Choose Custom Export when you need to select field delimiters, end of line markers, and quotes enclosing fields. This is useful if you are creating a feed to another system that has specific formatting requirements.

Helpful Hints:

- Information that is exported is saved independently of Analytics.
- The ability to link to other queries (or to drill downs) is not available for exported queries.
- Exporting is a time saver, especially for your remote dial-in users. Users can send other users an export of the query results rather than re-running the query.
- It is recommended that you make a note to help remember the drive and folder the exported query was saved to.

How to Export a Query

1. When viewing query results, click the **Export** button. The Export Query Results dialog box is displayed.

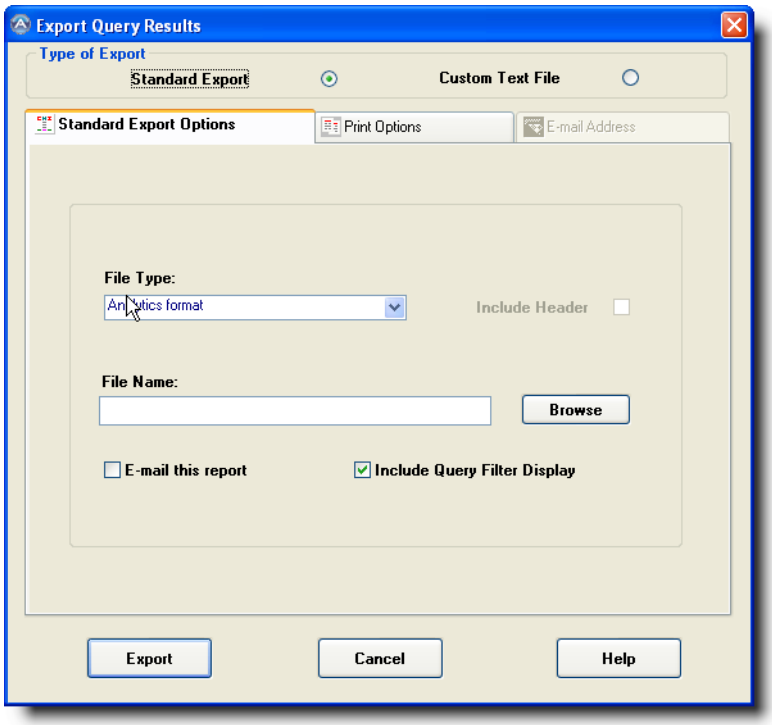


Figure 6-3: Export Query Results - Standard

2. Choose **Standard Export**.
3. Select a desired **File Type** from the drop down list.
4. **[OPTIONAL]** For some file types, check the **Include Header** option if you would like to include column headings. This is highly recommended for spreadsheet file types like Excel and Lotus.

> If the **Include Header** option is dimmed, the column Headings will automatically be exported.

5. Click the **Browse** button to select a location to save the exported report and type a name for the file.
6. **[OPTIONAL]** Select **E-Mail this report** to be able to add email addresses on the Email Address tab. See "E-Mail Queries On-the-Fly" on page 107 for details.

7. **[OPTIONAL]** Select **Include Query Filter Display** to have the selected criteria and parameters and any filters that were applied to the query print out on the exported report.

> The **Query Filter Display** option is only available if the file type is PSR, PDF, or HTML.

8. **[OPTIONAL]** Click the Print Options tab and then indicate the Zoom Percentage and Page Orientation of your exported query.
9. Click the **Export** button.

Exporting Various Query Features

A check (✓) in the chart below indicates the file formats that will retain various Query features.

	Report Calc	Subtotals & Totals	Graphs	Lookups	Hidden Columns	Query Filters Applied
Analytics (PSR)	✓	✓	✓	✓		✓
Adobe Acrobat (PDF)	✓	✓	✓	✓		✓
HTML	✓	✓		✓	✓	✓
Custom Text	✓	✓		✓	✓	
Workbook/ Spreadsheet					✓	

- Report calculation fields, such as a **Trans Day** (i.e. Monday) or **Percent Contribution** will **NOT** export to all file formats. If some report columns are not showing up in the export file, they are probably report calculations, which do not export in all file types.
- Report calculations will appear in exported PSR, Adobe Acrobat, HTML, or Custom Text file types.
- If possible, change the fields in the query from report calculations to computations using database fields so they will be exported.
- If you really need a report calculation in a format that will not export it, you can use a Custom Text File as an intermediate file. For example, if the field is required in a spreadsheet, you can export to a custom text file and then import that file into your spreadsheet software.
- When exporting a graph to HTML, comma separated values, or a spreadsheet format the data behind the graph is exported.

Exporting to a Custom Format

This option lets you create a text file with your choice of options for field delimiters, end of line markers, and enclosing fields. This is useful if you are creating a feed to another system that has specific formatting requirements.

Export to a Custom Format

1. Click the **Export** button. The Export Query Results dialog box is displayed.

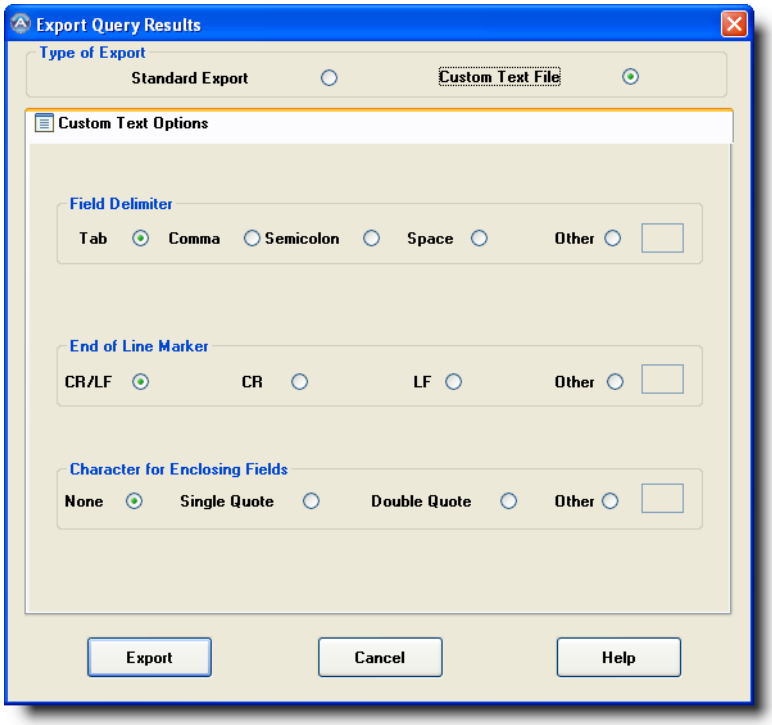


Figure 6-4: Export Query Results - Custom Text

2. Select the **Custom Text File** radio button.
3. Select a **Field Delimiter** character.
4. Select the **End of Line Marker** character.
5. Select the characters for enclosing fields, if necessary.

   The default characters listed in the dialog box (see Figure 6-4) are those most commonly used in text files.

E-MAIL QUERIES ON-THE-FLY

Use the Export feature to e-mail queries on-the-fly to:

- Analytics users
- A user-defined mailing list containing Analytics users
- Any email address entered during the export process

Emailing exported queries allows users to share pertinent information right away with others in the organization whether they are Analytics users or not. There is no need to exit Analytics in order to attach an exported query to an e-mail message; it is not necessary to launch your email program for this process either. For example, users can use Analytics to e-mail a Sales query to location managers on the fly or instantly send a regional manager information about an employee's suspicious activity.

How To E-Mail Exported Queries On-The-Fly

1. When viewing query results, click the **Export** button and select a **File Type**.

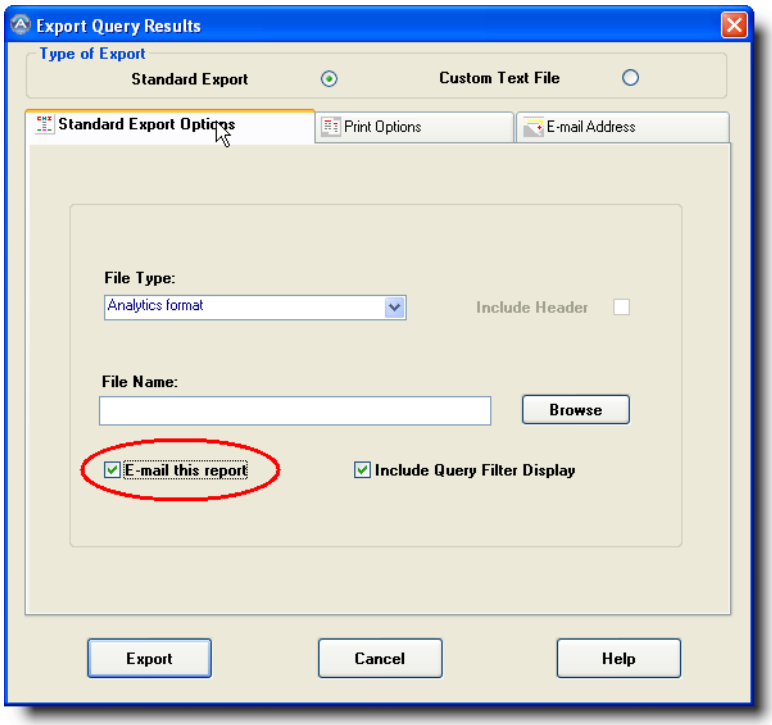


Figure 6-5: Export Query Results - E-Mail This Report

2. Check the **E-mail this report** option in the Export dialog box.

3. Select the **E-mail Address** tab.

4. Indicate the recipients by dragging and dropping User names or Group names from the **Available Recipient** box on the left to the **Selected Recipients** area on the right.

> **TIP** *If you would like to e-mail the query to someone who is not on the list, type the e-mail address in the **Address** area then click the **Add to List** button.*

5. Type a **Subject** for your message.
6. Click the **Email Note** button to add notes that will appear in the body of the e-mail message.

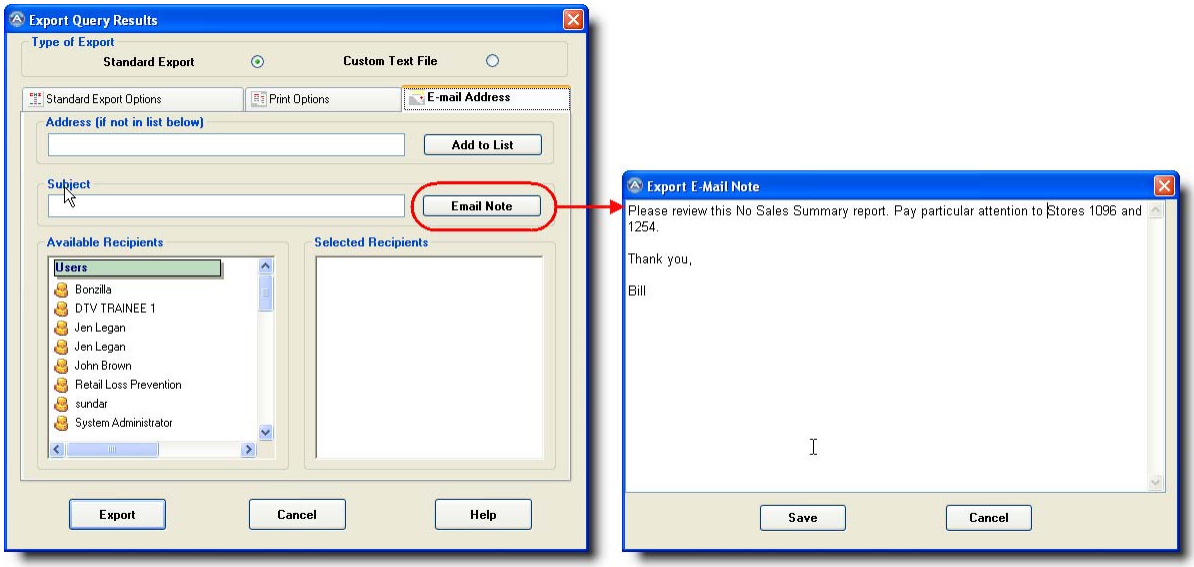


Figure 6-6: Email Note

7. Click the **Save** button to return to the Export Query Results box.
8. Click the **Export** button. This will export the query results and send the e-mail message. If you would like to e-mail the query to someone who is not on the list, type the e-mail address in the Address area then click the **Add to List** button.

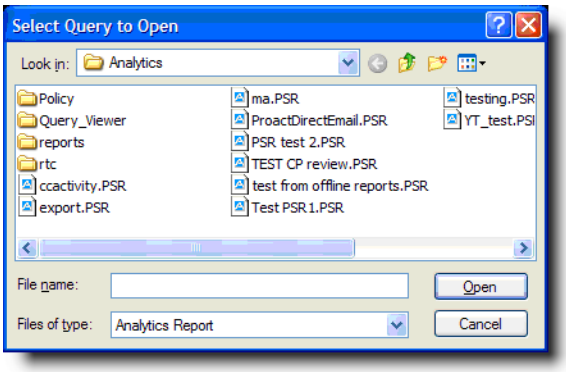
Opening an Exported PSR (Analytics Format) Report

Users can view query results that have been exported in the Analytics Report format (PSR) either via the application itself or via the standalone Analytics Query Viewer. The Query Viewer does not require a user to be connected to the Analytics database to view exported PSR reports. This allows users to e-mail an Analytics report to remote users anywhere in the field. The PSR reports maintain the same look and feel as they appear in Analytics. The results will be displayed in a Query Results window. Users have the ability to sort, filter, export and print. However, linking is not available since the query is a snapshot and not connected to the database.

Opening a PSR file using Analytics

How To Open a PSR file in Analytics

1. Select **File -> Open Exported Query** from the Analytics System menu.
2. Select the location and the exported Analytics Report (.PSR) from the **Select Query to Open** dialog box.
3. Click the **Open** button.



Opening a PSR file using the Query Viewer

In order to open a Analytics report (.PSR file) for the first time, it needs to be associated with the Query Viewer. This allows the system to identify with what application it opens a .PSR file going forward.

How to Associate a .PSR File with Query Viewer

1. Launch Window Explorer.
2. From the window menu, select **Tools -> Folder Options -> File Types -> New**.
3. In the **File Extension** field, type PSR.
4. Click the **Advanced** button.
5. From the **Associated File Type** drop down, select PSR File.
6. Click **OK** and close out of the windows.

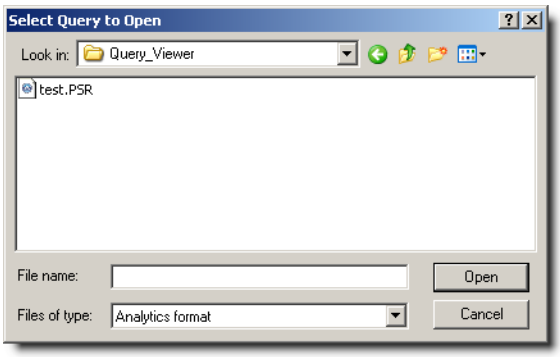
Alternately, you can associate a .PSR file with the Query Viewer by following the steps below:

1. Launch Window Explorer to locate the Analytics_6.5\Query_Viewer folder
2. Double-click TEST.PSR and a dialog box labeled **Open With** appears.
3. Click the **Other** button and select Sybase Inc Product File or Analystics.exe.
4. Click the **Open** button and make sure the option **Always use this program to open this file** is checked.
5. Click the **OK** button.

Now, when you try to open an exported or e-mailed PSR file, it will automatically open in the Query Viewer.

How to Open a PSR File Using Query Viewer

1. Double-click the `DTVViewer.exe` file, which is located in the `Analytics_7.0\DESKTOP\Query_Viewer` folder. The **Query Viewer** will launch with a blank screen.
2. Click the **Open** button to locate an exported PSR file. The **Select Query to Open** window is displayed.



3. Use the **Look In** drop down field to find the exported Analytics format (PSR) file you would like to open.
4. Select the file name and click **Open**. The query results will display.
5. The same options and functionality available in Analytics are available via the Query Viewer.
   - Export
   - Print
   - Print Preview
   - Options
   - Sort
   - Filter
6. Click the **Close** button to exit the query.

CHAPTER 7

Drill Down Queries

OVERVIEW

Drill Downs are summary level, statistical queries that are valuable for management reporting. They allow you to drill down through a store's operational hierarchy or any other grouping as defined within an organization, such as hierarchy. Drill Downs are intended to summarize data and are designed to link to Adhoc queries to review the details behind the summarized values. A Drill Down Path displays at the top of each query and shows you each level within the hierarchy that you have advanced through. This path remains visible while viewing the query within the application, a printed copy or an exported file.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Locate and run Drill Downs
- Navigate from level to level within the hierarchy
- Link to Adhocs

PROCEDURES

HOW TO LOCATE AND RUN A DRILL DOWN QUERY

Drill Down queries are located on the **Drill Down** tab in the Queries window. Expand the classifications folder and select a query name to locate a Drill Down query. Click the **Run** button or double click the Drill Down query name to run the Drill Down.

Once the query has run, the **Next Level** 

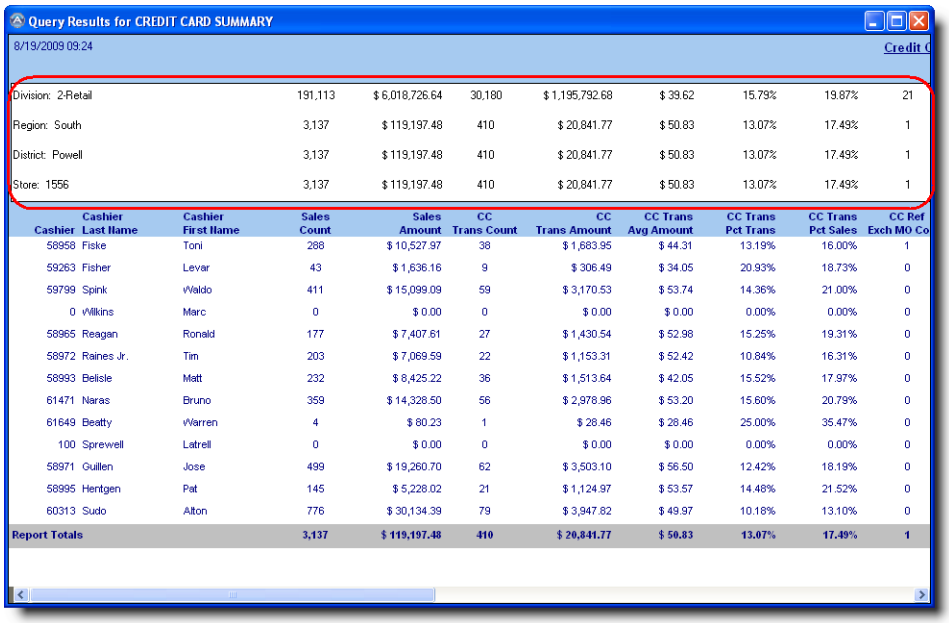
button can be used to advance to the next level.

The **Previous Level** 

button can be used to return to the previous level.

As you progress through the Drill Down levels, the Drill Down path is displayed (circled below).

Drill Down queries are not saved, unless the query results are printed or exported to a file, such as Analytics, Adobe, HTML, or Microsoft Excel file. When a Drill Down query is exported, only the level that is displayed, and not the entire hierarchy, will be exported. See Chapter 6, "Print and Export Query Results" on page 99 for more information on exporting information.



Query Results for CREDIT CARD SUMMARY

8/19/2009 09:24

Division: 2-Retail	191,113	$ 6,018,726.64	30,180	$ 1,195,792.68	$ 39.62	15.79%	19.87%	21
Region: South	3,137	$ 119,197.48	410	$ 20,841.77	$ 50.83	13.07%	17.49%	1
District: Powell	3,137	$ 119,197.48	410	$ 20,841.77	$ 50.83	13.07%	17.49%	1
Store: 1556	3,137	$ 119,197.48	410	$ 20,841.77	$ 50.83	13.07%	17.49%	1

Cashier	Cashier Last Name	Cashier First Name	Sales Count	Sales Amount	CC Trans Count	CC Trans Amount	CC Trans Avg Amount	CC Trans Pct Trans	CC Trans Pct Sales	CC Ref Exch MO Co
58958	Fiske	Toni	288	$ 10,527.97	38	$ 1,683.95	$ 44.31	13.19%	16.00%	1
59263	Fisher	Levar	43	$ 1,636.16	9	$ 306.49	$ 34.05	20.93%	18.73%	0
59799	Spink	vWaldo	411	$ 15,099.09	59	$ 3,170.53	$ 53.74	14.36%	21.00%	0
0	vWilkins	Marc	0	$ 0.00	0	$ 0.00	$ 0.00	0.00%	0.00%	0
58965	Reagan	Ronald	177	$ 7,407.61	27	$ 1,430.54	$ 52.98	15.25%	19.31%	0
58972	Raines Jr.	Tim	203	$ 7,069.59	22	$ 1,153.31	$ 52.42	10.84%	16.31%	0
58993	Belisle	Matt	232	$ 8,425.22	36	$ 1,513.64	$ 42.05	15.52%	17.97%	0
61471	Naras	Bruno	359	$ 14,328.50	56	$ 2,978.96	$ 53.20	15.60%	20.79%	0
61649	Beatty	vWarren	4	$ 80.23	1	$ 28.46	$ 28.46	25.00%	35.47%	0
100	Sprewell	Latrell	0	$ 0.00	0	$ 0.00	$ 0.00	0.00%	0.00%	0
58971	Guillen	Jose	499	$ 19,260.70	62	$ 3,503.10	$ 56.50	12.42%	18.19%	0
58995	Hentgen	Pat	145	$ 5,228.02	21	$ 1,124.97	$ 53.57	14.48%	21.52%	0
60313	Sudo	Alton	776	$ 30,134.39	79	$ 3,947.82	$ 49.97	10.18%	13.10%	0
Report Totals			**3,137**	**$ 119,197.48**	**410**	**$ 20,841.77**	**$ 50.83**	**13.07%**	**17.49%**	**1**

Figure 7-1: Drill Down - Store Level

How to Run a Drill Down Query

1. Select the **Drill Down** tab.
2. Expand a Classification.
3. Double click a **Drill Down** Query to run it.
4. Select a time frame in the date selection area and criteria, click the **Run** button.
5. When the Query results display, select a row and use the **Next Level** 

button to advance to the next level.

   TIP *Double click a row to advance to the next level.*

   To return to a previous level, click the **Previous Level** 

button.

   Drills Down query results can be filtered, sorted, freeze columns etc. See Chapter 4, “Managing Query Results" on page 59 for more information.

6. At the lowest level, a **Next Level** option will no longer appear. Click the **Link** button to link to an Adhoc query for detail information.

   To return to the Drill Down results close the Adhoc window.

Navigating Through a Drill Down Query

From Division to Region:

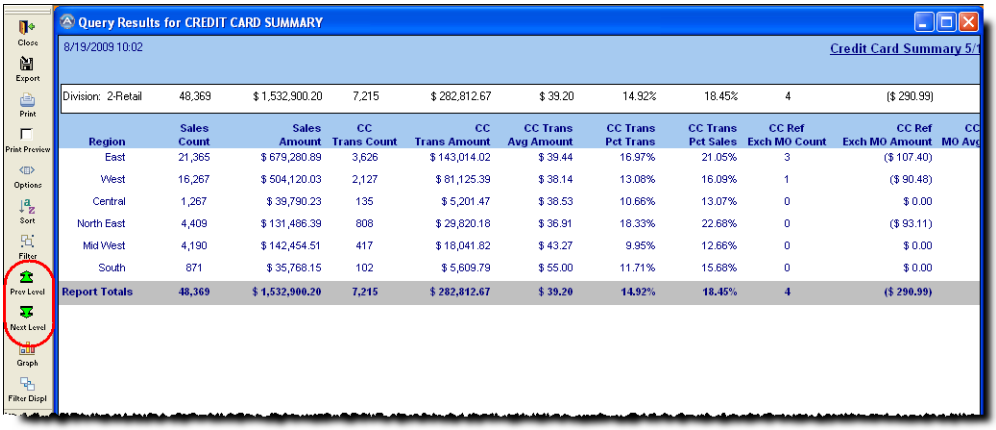


Figure 7-2: Drill Down from Division to Region

Lowest Level in the Hierarchy - Cashier in this example:

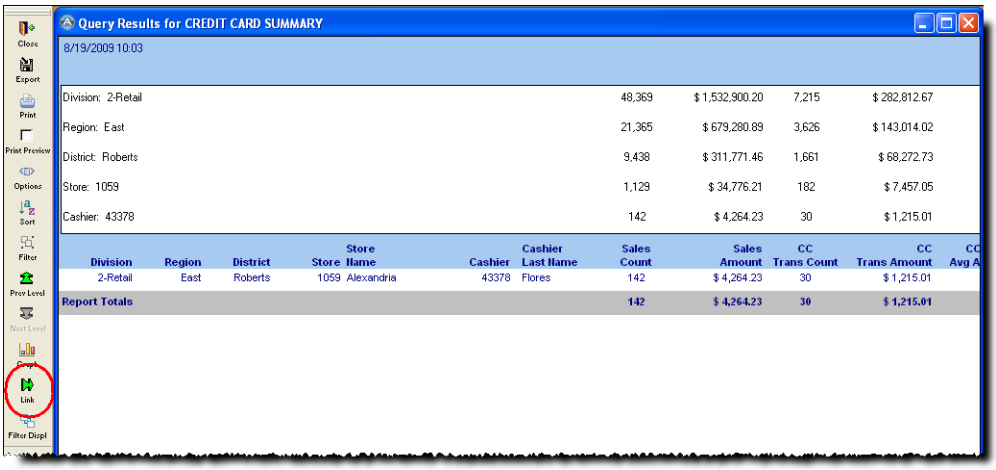


Figure 7-3: Drill Down - Cashier Level

Linked to an Adhoc for more detail to the above summary:

Query Results for CREDIT CARD ACTIVITY

8/19/2009 09:58 — Credit Card Activity 5/14/2006 to 5/20/2006 — Page 1 of

Store	Cashier	Cashier Last Name	Register	Trans Date	Trans	Trans Time	Tender Amount	Account	Manual Keyed Code	Employee Sale Flag	Employee
1059	43378	Flores	2	05/15/2006	177585	13:36:52	$ 12.08	400941XXXXXX1015	Swiped		0
					177586	13:42:12	$ 23.58	519123XXXXXX7110	Swiped		0
					177682	18:48:41	$ 46.00	440396XXXXXX5077	Swiped		0
					177683	18:54:18	$ 44.82	450060XXXXXX5286	Swiped		0
					177716	21:04:37	$ 37.25	455121XXXXXX2831	Swiped		0
			1	05/16/2006	177754	13:26:39	$ 163.64	452085XXXXXX0278	Swiped	Y	22960
					177768	14:59:14	$ 13.80	455121XXXXXX2093	Swiped		0

Figure 7-4: Drill Down - Linked Adhoc Query

C H A P T E R 8

Graphing Queries

Overview

Graphs provide a visual and colorful approach for reviewing information at-a-glance. Graphs can help you to spot trends and exceptions. Graphs are dynamic, like queries, which allow you to analyze the most recent activity and link to additional details.

Learning Objectives

Upon completion of this section, you should be able to:

- Run a graphed query
- Edit the Graph Title
- Modify the Graph Type
- Toggle between graphs and reports
- Create a temporary graph

PROCEDURES

HOW TO RUN A GRAPHED QUERY

Graphs are created from Adhoc and Drill Down queries. You can easily switch between a graph and a query. You can also print and export graphs like you would for other query types. Refer to Chapter 6, "Print and Export Query Results" on page 99 for more information.

Existing graphs have already been created from related Adhocs and Drill Downs. Analyst can create new graphs, which are temporary. Only System Administrators and the owner of a query can create and save new graphs permanently.

How to Run an Existing Graph

1. Open the Queries window and expand an Adhoc classification. If a "+" sign exists next to query name, then a graph exists for that query.

> TIP
> *The graph icons that appear next to graph names indicate the type of graph.*

2. Expand a query name to view graph selections and double click a graph.
3. In the **Run** window, indicate preferences (date range, parameters and criteria).
4. Click the **Run** button. The graph will display.

> TIP
> *You can quickly switch to the query from a graph by clicking the **Report** button.*
>
> *You can quickly switch to a graph from a query by clicking the **Graph** button. If there is more than one graph available, select a graph from the **Graph Selection** dialog box.*

Anatomy of a Graph

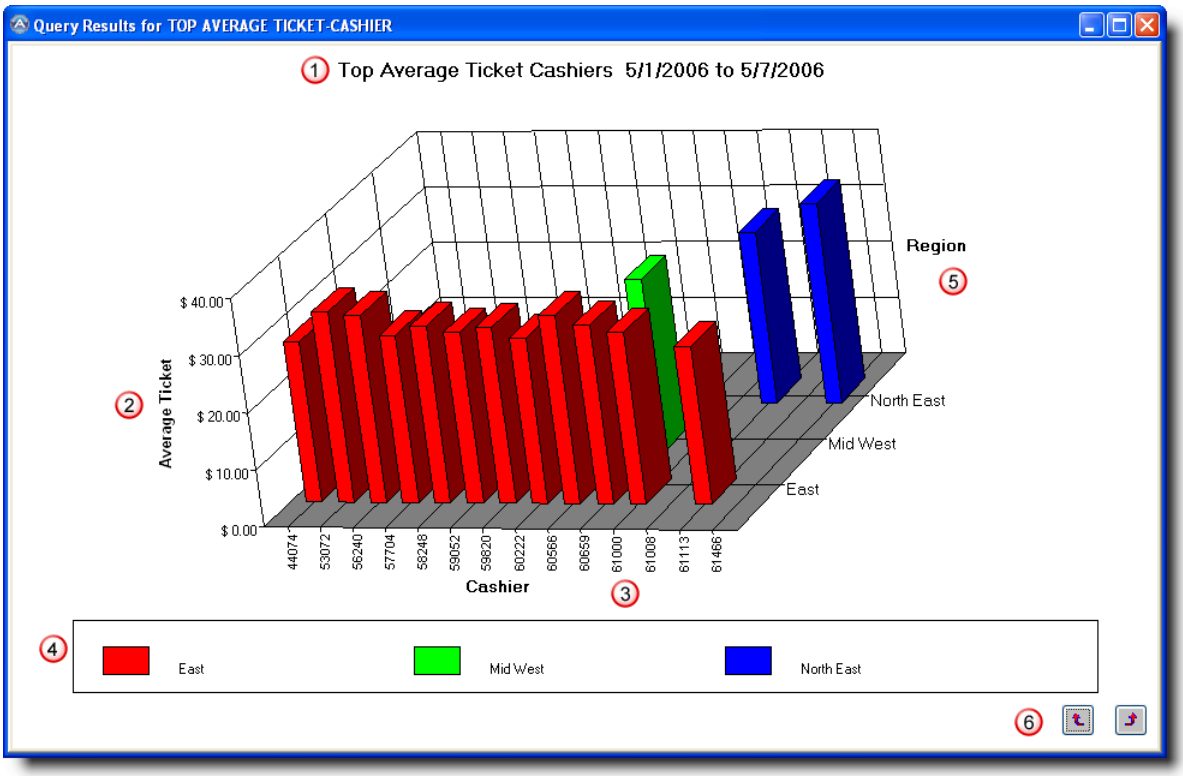


Figure 8-1: Sample 3-D Graph

Below is a list of common terms that are used when working with Analytics Graphs:

1	**Title**	The name of the graph which appears at the top.
2	**Value Label**	The data that appears on the left side (vertical) of the chart.
3	**Category Label**	The data that appears at the bottom (horizontal) of the chart.
4	**Series Label**	The data that appears on the right side (depth) of the chart.
5	**Legend**	The key to identify the data points (columns, bars, pie pieces, etc) in a chart.
6	**Rotate Buttons**	The buttons that appear at the bottom right of a 3-D graph that allows users to rotate the graph.

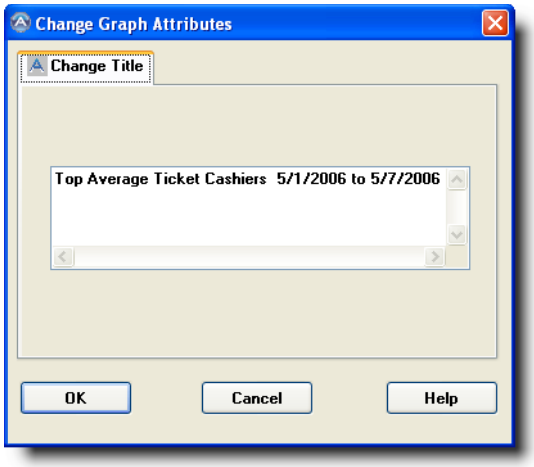
MODIFYING A GRAPH

Graphs can be modified to reflect filtered data, title changes, and different graph types. System Administrators and query owners can modify graph elements and save changes. Analysts can modify graph titles and graph types; however these changes are temporary unless they are the owner of the query. Although Analyst changes are temporary, modifying various elements of the graph prior to printing or exporting can be helpful so the data is reflected accurately.

Changing a Graph Title

How to Change the Graph Title

1. Run the graph from the Queries list.
2. Right click on the graph.
3. Select **Modify Graph Title** from the shortcut menu. The **Change Graph Title** dialog box is displayed (see right).
4. Change the title as desired.
5. Click **OK**.



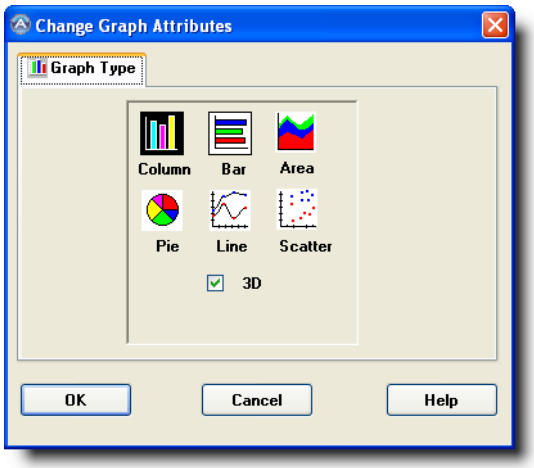
Changing a Graph Type

Changing the graph type allows you to change the visual representation of data from one graph format to another. For example, changing a column graph type to a pie graph type. Although you can print and export graphs in the type that is currently displayed, the graph will return to its default graph type the next time it is run. The list below describes the purpose of each chart type. The type you use depends on the data you are graphing as well as the preferences of those creating a graph or reviewing the graph.

Use this Type	To Create a Graph that . . .
Column	Displays vertical bars, which compare values across a category
Bar	Displays horizontal bars, which compare values across a category
Area	Displays trends across a category
Pie	Pieces of a Whole. You may want to see how large Region 4's portion (amount or counts) compares to the rest of the Regions
Line	Displays trends across a category
Scatter	Compare pairs of values

How to Change the Graph Type

1. Run the graph from the Queries list.
2. Right click on the graph.
3. Select **Modify Graph Type** from the shortcut menu. The Change Graph Type dialog box is displayed (see right).
4. Select a graph type.
5. Click **OK**.



Changing the Graph Label Orientation

When selecting a graph category or label to display across the horizontal or vertical axis, the values or text may not fit on the axis if there are many values to display. The orientation can be changed to vertical, horizontal or 45-degree angel to display the information more clearly.

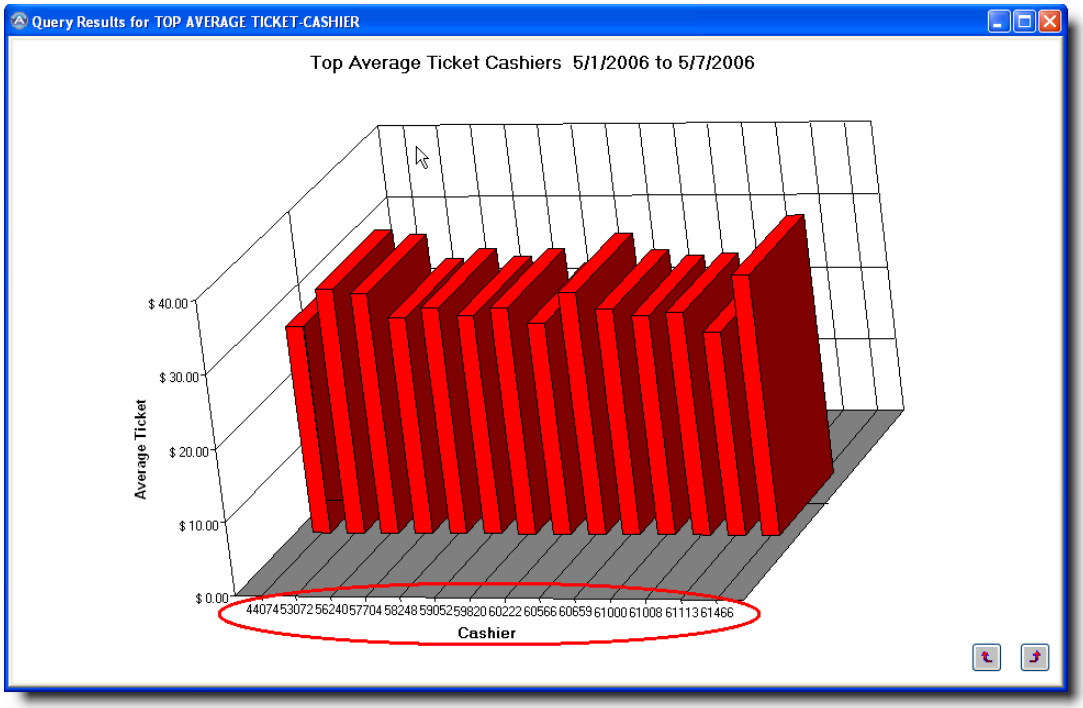
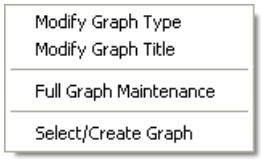


Figure 8-2: Horizontal Axis Text- Horizontal

How to Change the Axis Orientation

1. Run the graph from the Queries list.
2. Right click on the graph. The shortcut men appears.
3. Select **Full Graph Maintenance** from the shortcut menu.



> Only System Administrators, System Managers, or query owners will have the **Full Graph Maintenance** option.

4. Click the **Advanced** button in the upper right section of the Graph Maintenance window.
5. Click either the **Category Axis** tab or the **Vertical Axis** tab whichever label orientation needs to be changed.

6. In the **Label** section, click the **Orientation** drop down field, and select Horizontal, Vertical or 45 Degrees.

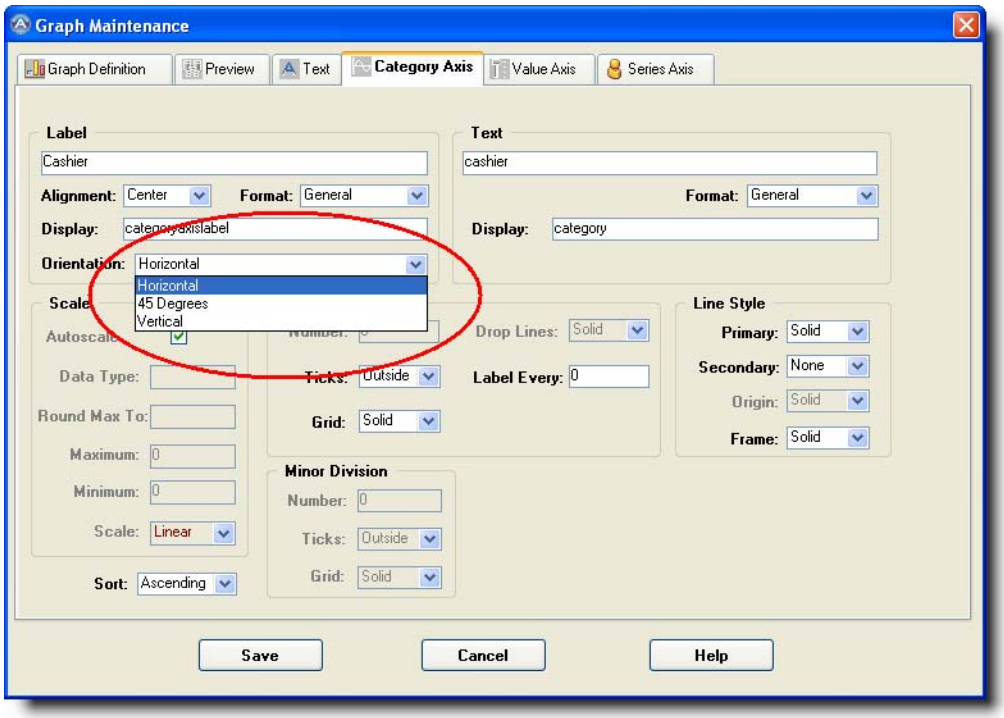


Figure 8-3: Category (Horizontal) Axis Orientation

7. Click **Save** and the graph will display with the changes.

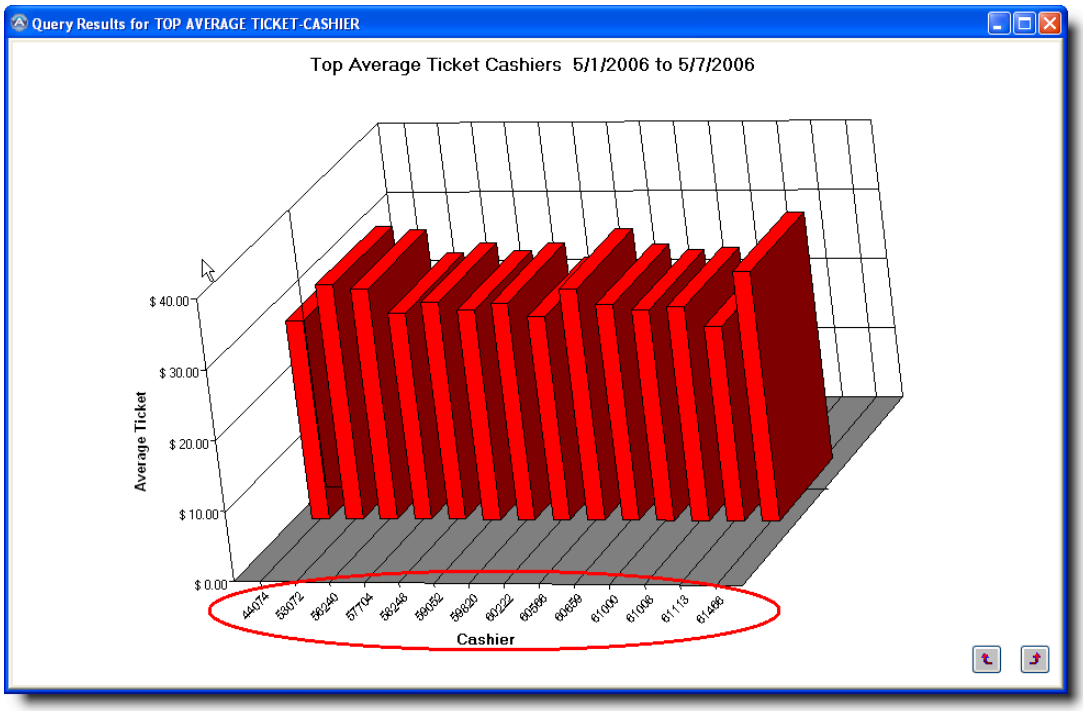


Figure 8-4: Horizontal Axis Text- 45 Degrees

Create a Temporary Graph

Only System Administrators, System Managers, and Query Owners can create and permanently save graphs. Others can create temporary graphs that can be printed and exported, but not permanently saved.

How to Create A Temporary Graph

1. Run the desired query. You may want to filter the results to allow for a meaningful graph.
2. Click the **Graph** button.
3. If a graph does not yet exist, the **Graph Maintenance** dialog box will display.

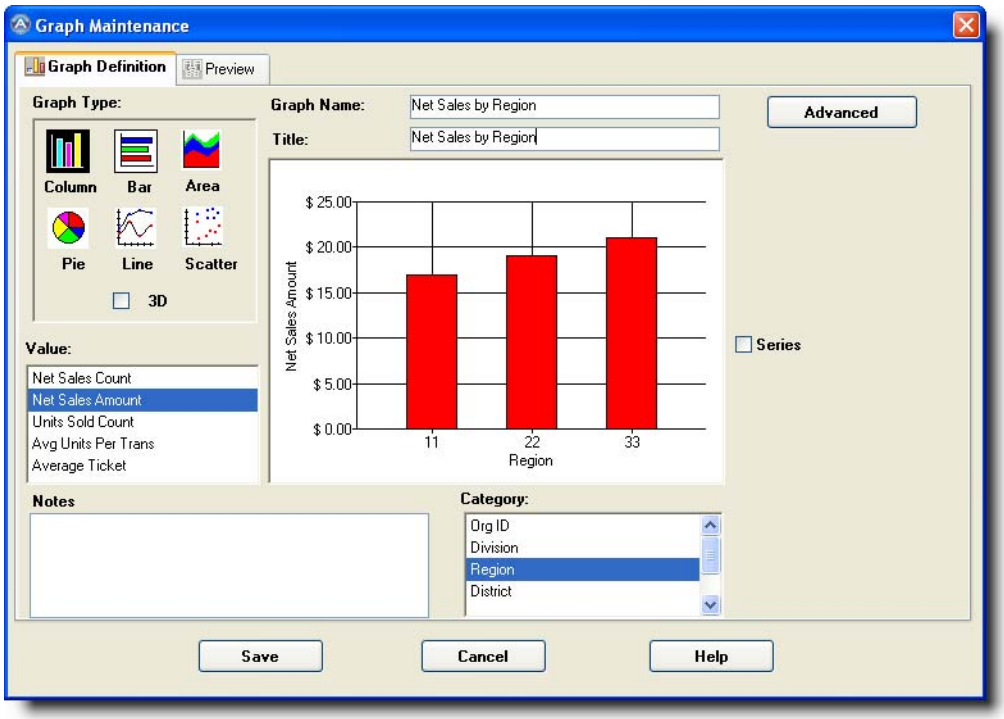


Figure 8-5: Graph Maintenance Dialog Box

4. Type in a **Graph Title**.

> Only System Administrators and Query Owners will be allowed to type in a **Graph Name**.
>
> The **Graph Name** box will be gray and will read "This is a temporary graph-name is not needed" if an Analyst is creating the graph.

5. Select a **Graph Type**.
6. Select a **Value**, which will be represented vertically, and a **Category** which will be represented horizontally. Note that you can multi-select values and categories and the legend will display accordingly.

7. Click **OK**. The graph will display. You can print the graph by clicking the **Print** button.
8. Click the **Preview** tab to preview the graph prior to saving to make sure the graph looks like what you want.
9. Click the **Report** button if you want to return to the report.

Creating a Graph from an Existing Graph

How to Create a New Graph from an Existing Graph

1. Run the graph to display it.
2. Right click the graph and select **Select/Create Graph** from the shortcut menu. The **Graph Selection** dialog box will display.

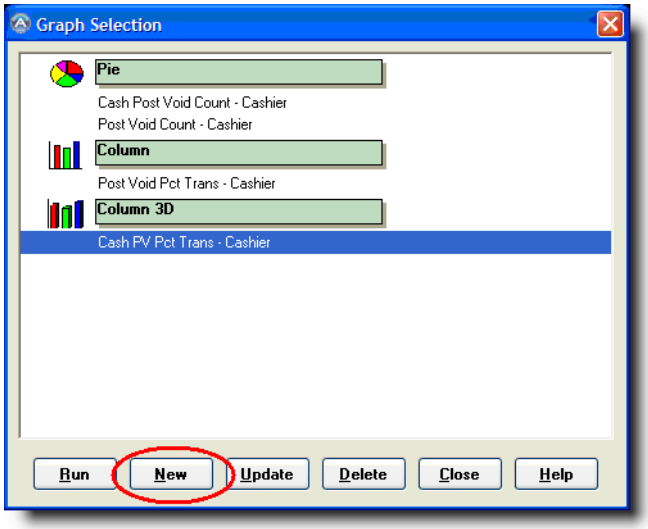


Figure 8-6: Graph Selection Dialog Box

3. Click the **New** button. The **Graph Maintenance** dialog box will display (Figure 8-5).
4. Select a **Graph Type**.
5. Enter a **Title**.
6. Select a **Value** and a **Category**.
7. Click **OK** to view the temporary graph.

Copying a Graph into PowerPoint

If you need to place a graph from Analytics into a PowerPoint presentation, follow the steps below.

How to Copy a Graph Into PowerPoint

1. While viewing a graph in Analytics press **[Print Screen]** on your keyboard.
2. Switch to PowerPoint, open your Presentation, and go to the slide where you want to display the graph.
3. Click the **Paste** button. The image may be too large or contain unneeded information and you may need to crop the edges of the screen.
4. With the graph selected, click the **Crop** button  on the Picture Toolbar.
5. Place the Cropping tool over a file handle  (on the corners or middle of each side edge). Click and drag to hide the part of the image you want to save.
6. Repeat step 5 for each edge of the screen.
7. Save your presentation.

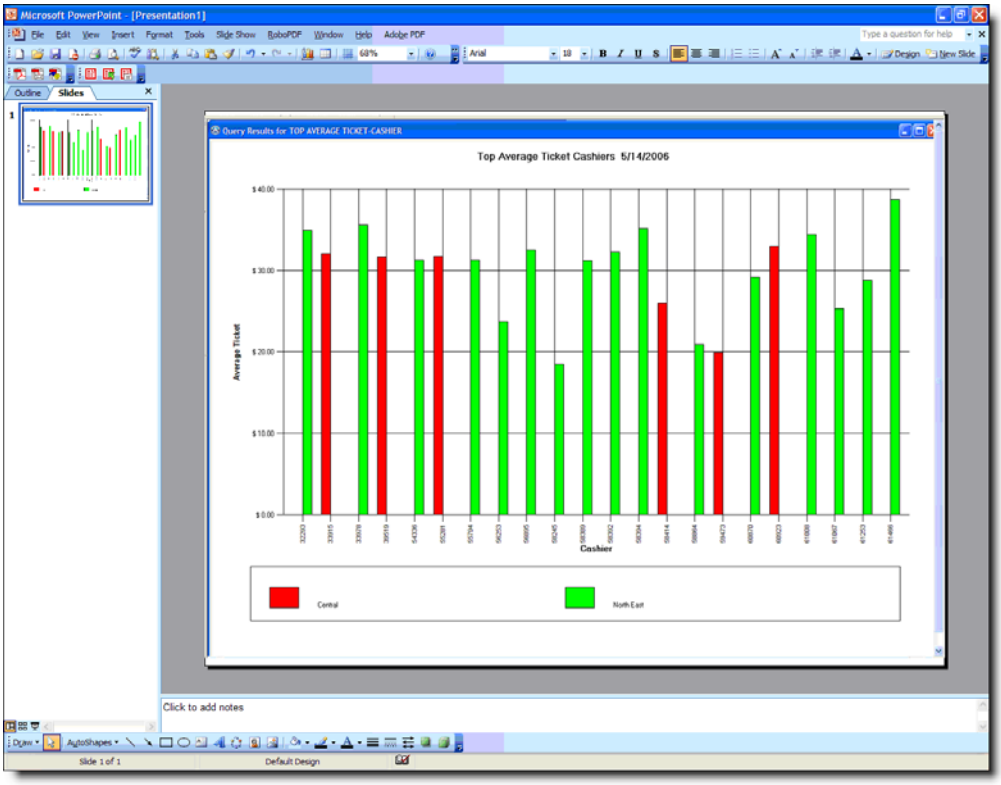


Figure 8-7: Graph in PowerPoint

CHAPTER 9

Quick Run Screen

OVERVIEW

Datavantage Analytics provides each user with the ability to personalize his or her Quick Run screen. Quick Run is a great area to save frequently used queries right at your fingertips. Similar to using Bookmarks or Favorites to quickly access frequently visited web sites, Quick Run provides shortcuts to your queries. Using the Quick Run screen eliminates the need to search through all queries to find the one you need. Each Datavantage Analytics module has its own Quick Run screen that can be customized by each user.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Copy a Quick Run Screen
- Add, Edit & Delete Tabs
- Add, Edit & Delete Categories
- Run Queries from the Quick Run screen

PROCEDURES

COPYING A QUICK RUN SETUP

When you first login using your own User ID, the Quick Run screen may be blank. It is recommended that the System Administrator customize a standard screen containing frequently used category buttons and queries. Each user can then copy the setup allowing for a common starting point for everyone.

How to Copy another User's Quick Run Setup

> **!** *If you have already customized your Quick Run screen, you may not want to overwrite it with another user's Quick Run set up.*

1. Select **Copy Quick Run Setup** from the Administration menu.

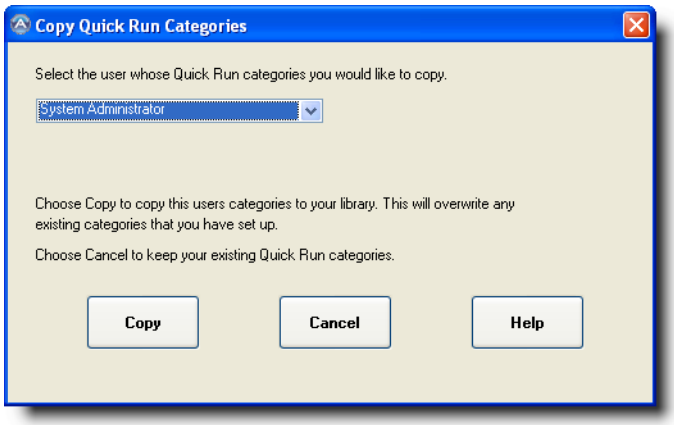


Figure 9-1: Copy Quick Run Categories

2. In the drop down list, select System Administrator (or other suggested user).
3. Click the **Copy** button.
4. When asked if you want to overwrite any existing categories, click **Yes**.

Working with Tabs

To organize information in your Quick Run screen, you can create multiple tabs and save groups of related queries on their own tabs. Tabs can also be edited or deleted.

Adding a Tab

Adding a tab is an easy way to personalize your Quick Run screen. For example, you may have a suite of customized queries, which display information by LP Risk Group. You could create an LP Risk Group tab with query category buttons such as Cash Refunds, Non-Cash Refunds, and Checks. Each query grouped into these categories would display information by each risk group.

How to Add a Tab

1. Right-click anywhere on the Quick Run screen.
2. Select **Add Tab** from the short-cut menu. The Category Tab Maintenance dialog box is displayed.

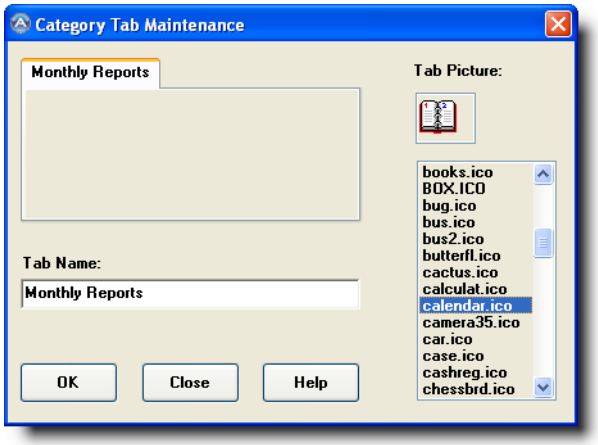


Figure 9-2: Add Tab

3. Type a descriptive name for your tab in the **Tab Name** field.
4. Double-click a picture from the **Tab Picture** list. If you skip this step, an **X** will appear next to the tab name. If this occurs, right-click anywhere on the tab and select **Edit Tab**.
5. Click **OK**.

Editing Tabs

You may want to change either the description or picture associated with an existing tab. You can make these types of changes while keeping the query buttons and queries that you access from that tab.

How to Edit a Tab

1. Click the tab you would like to edit.
2. Right-click anywhere on the tab you are editing.
3. Select **Edit Tab** from the shortcut menu.

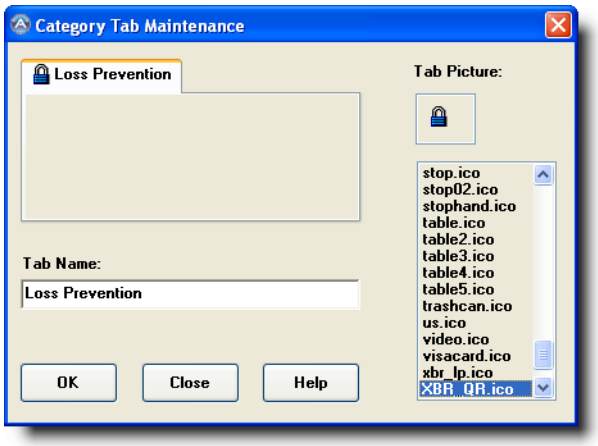


Figure 9-3: Edit Tab

4. **[OPTIONAL]** In the **Tab Name** area, modify the description of the tab.
5. **[OPTIONAL]** Double-click on a new picture from the **Tab Picture**.
6. Click **OK**.

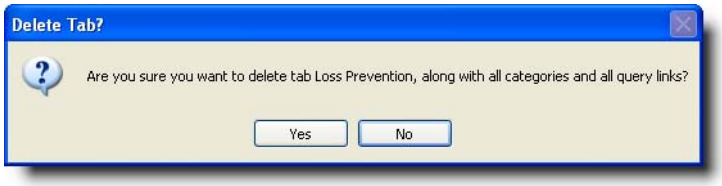
Deleting Tabs

If you decide you do not need a tab anymore you can delete it. But, it is important to know that you will delete any **Category** buttons on that tab as well as the short cuts to the queries you were running from that tab.

The actual queries are not deleted from the application. You can always add new short cuts to any **Category** buttons.

How to Delete a Tab

1. Click the tab you would like to delete so it displays in front of any other tabs.
2. Right-click anywhere on the tab you want to delete.
3. Select **Delete Tab** from the short-cut menu.
4. When you are asked if you are sure you want to delete the tab (see right), click **Yes** to confirm the deletion.



Working with Category Buttons

New categories can be added to any tab at any time. Query shortcuts can then be added to the category buttons, category buttons can be re-arranged on a tab or moved to a different tab.

Adding and Re-arranging Category Buttons

You may decide to organize queries by grouping them under a new **Category** button.

How to Add and Rearrange Category Buttons

1. Right-click anywhere on the tab you would like a new **Category** button.
2. Select **Create New Category** from the short-cut menu.

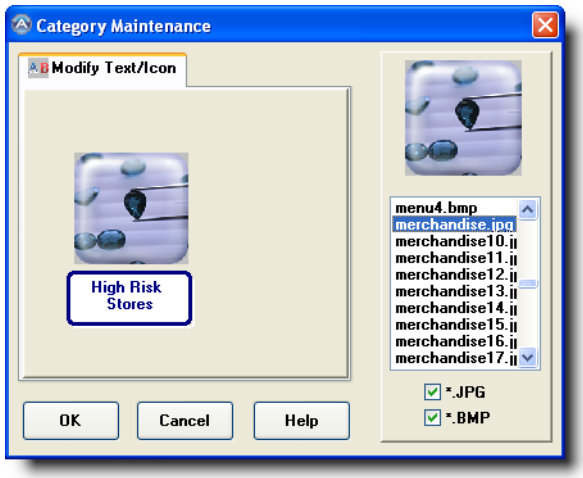


Figure 9-4: Add Category Button

3. Type in a description for the category.
4. Double click a picture to display as the category button.
5. Click **OK.** By default, your new **Category** button appears at the end of the first row of buttons.

> To re-arrange categories on a tab, drag and drop them where you would like them to appear. If you drop a category button on top of an existing button, the existing button moves to the right making room for the one you are moving.
>
> To move buttons to a new tab, drag and drop them from one tab to another.

Edit Category Buttons

You can make changes to existing and newly created category buttons at any point in time. For example, changing the name or picture associated with a category.

How to Edit a Category Button

1. Right-click on the Category button.
2. Select **Edit Category** from the short-cut menu.

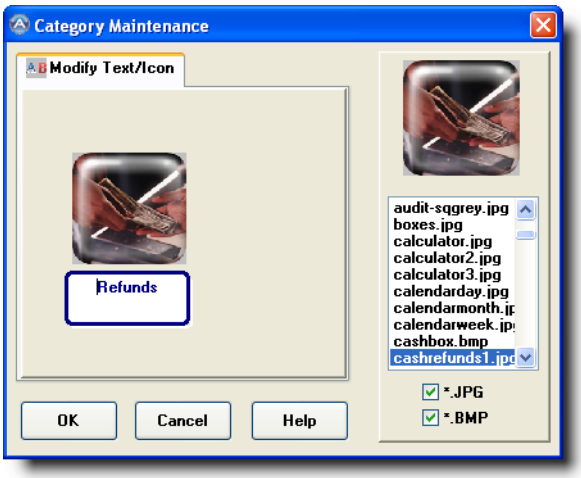


Figure 9-5: Edit Category Button

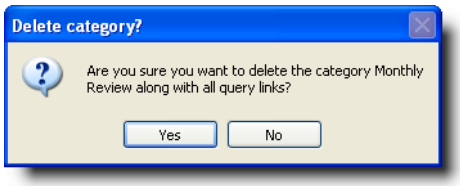
3. Make necessary changes to the name and/or the picture.
4. Click **OK**.

Delete Category Buttons

If you decide you do not need a category anymore you can delete it. But, it is important to know that you will also remove any shortcuts to the queries you were running from that button. The actual queries are not deleted from the application and can be added to different Category buttons.

How to Delete a Category Button

1. Right-click on the Category button.
2. Select Delete Category from the short-cut menu.
3. When you see a prompt similar to the one to the right, verify that the name of the Category button you intend to delete appears. Click **Yes**.



Adding Queries to Category Buttons

When you assign queries to category buttons, you are creating shortcuts to the queries that are available from the Query List. You can add new queries to Category buttons and delete them from without actually removing the queries from the system.

How to Add Queries to a Category Button

1. Click the **Quick Run** button to display this window if it is not already displayed.
2. Click the appropriate tab name to display the Category button where you would like to add your query or graph.
3. Click the **Queries** button and select the query or graph you would like to add.
4. From the Window menu, select **Tile Vertical** so that you can view the Quick Run and the Query List simultaneously.
5. Drag the query or graph name and drop it on the appropriate Category button.

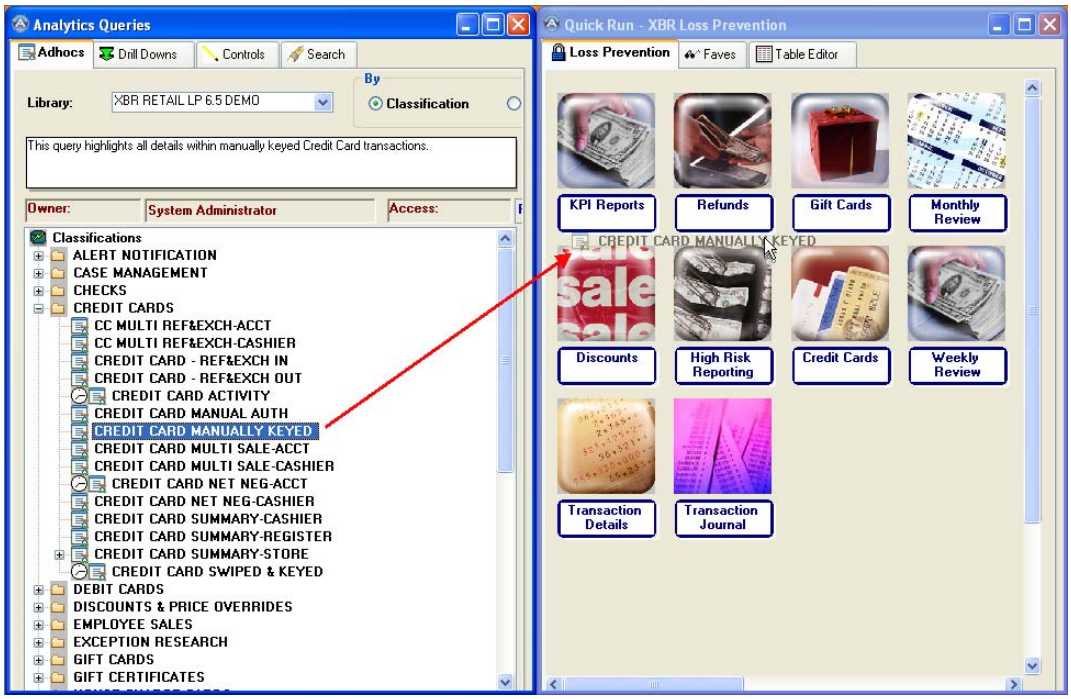


Figure 9-6: Add Query to Category Button

6. When you are finished dragging queries or graphs to Category buttons, click the **Close** button to close the Query list.

Running Queries Via Quick Run

Category buttons organize queries and graphs so that you can easily locate and run them.

How to Run Queries From The Quick Run Screen

If you close the Quick Run screen, click the **Quick Run** button to display it.

1. On the Quick Run Screen double-click a Category button.

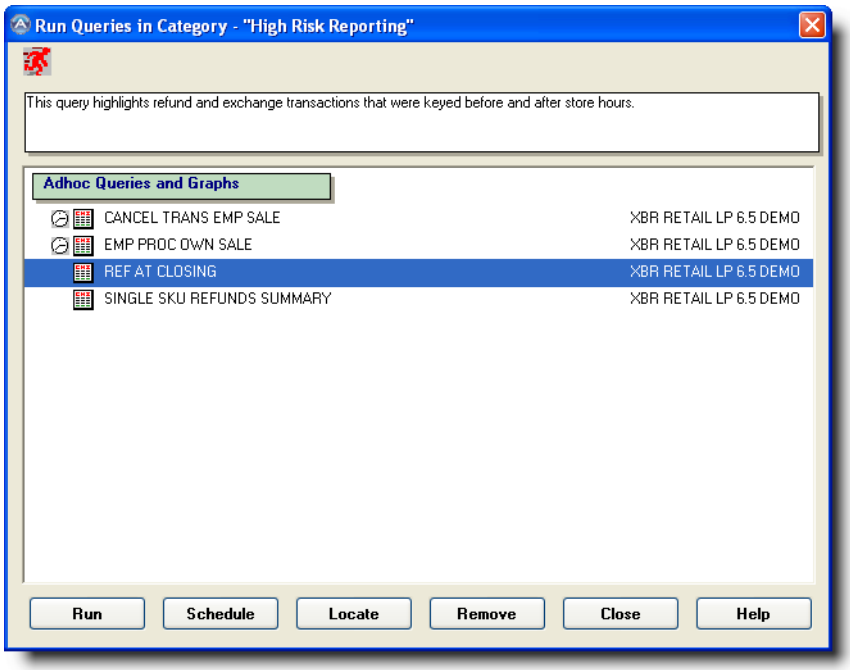


Figure 9-7: Run Query From Category Button

2. Double-click a query or graph to Run it.

In addition to running queries from the Quick Run, you can schedule or locate a query.

- To schedule a query, select the query name and click the **Schedule** button. Please refer to the Automating Queries section for scheduling details.
- To locate a query in the Queries list, select the query name and click the **Locate** button. You will be re-directed to the appropriate query type tab, library and classification in the Queries window and the query name will be highlighted.

CHAPTER 10

Controls

OVERVIEW

Control queries are used to detect and report exceptions as compared to normal activity. They identify activity that exceeds specified criteria set for a selected period of time. Controls maintain a history of exceptions, which allow users to pinpoint trends and identify compliance issues.

Exception reports generated by Controls are saved on a Review screen, whether run Immediately or Offline, until manually removed. This allows users to access detected exceptions without having to run the same query multiple times.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Run and Review Control queries
- Run Top Level reporting to display only a specific number of exceptions
- Run a Control Query Offline
- Review Exception History
- Use Resolution Notes and update Watch Status
- Add associates and stores to watch lists
- Link to Adhocs
- Manage the Review Screen

MANUALLY RUNNING CONTROL POINTS

Controls detect and report exceptions in accordance to normal business activity. They are based off of existing Adhocs referred to as Control Queries. For example, the Control Query, Line Void Summary Cashier displays a summary of excessive line void activity by cashier for counts, total amounts, percentage to transactions, percentage to items, and percentage to sales. A Control Point, such as Line Void Count, is built off of this Control Query, and is used to highlight Cashiers with an excessive number of Line Void transactions.

- Control Queries are recognized on the **Controls** tab as a report icon .
- Control Points are recognized under Controls Queries as a pencil tip icon .

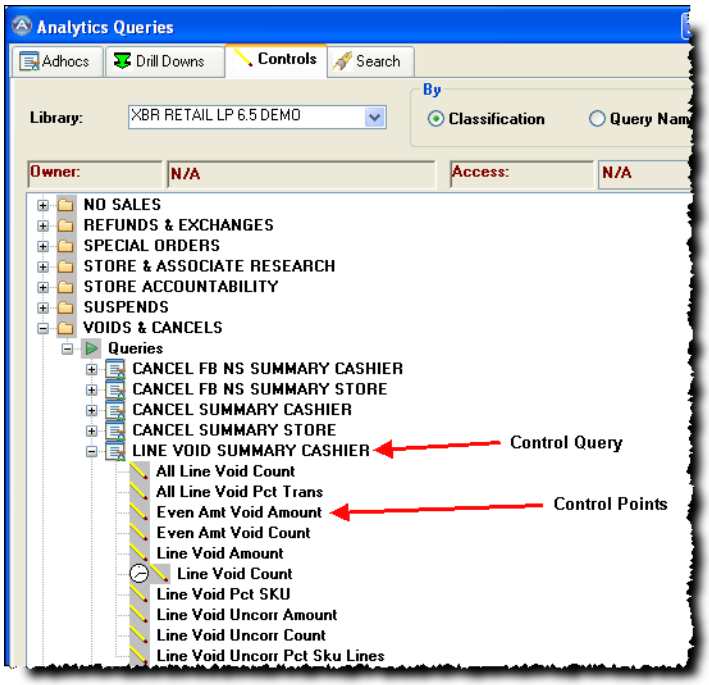


Figure 10-1: Control Query/Points

Although Control Points can be run manually, it is recommended that they be scheduled to run automatically and the user can review the results via the Review screen. See Scheduling Queries and Alerts in the *Fundamental Training Guide* for information on scheduling queries to run automatically.

Control Points build a history of activity each time they are run. If a user runs a Control Point for a given time period and establishes history, re-running the Control Point for the same time period and assigning it to the same Review screen will override the previous exceptions and any investigative work associated with the exceptions. Therefore it is important to ensure that multiple users running the same Control Points whose results display on a common Review screen do not override historical data. When an exception set is about to be replaced, the system will prompt the user to confirm or cancel the replacement.

Threshold Maintenance

Owners of a query or users with System Administrator or System Managers can maintain control points and modify control point threshold criteria as needed. Users can set custom threshold values for different segments of a company. For example, higher activity stores may have a greater cash refund threshold than the lower activity stores.

Assigning Exceptions

When Control Points are run, the exceptions are assigned to a user's Review screen. Every user has his/her own Review screen. It is recommended that users store exceptions on a common review screen, such as the System Administrator's, if multiple users are reviewing overlapping regions. When control point exceptions are accessed from one common review screen, it alleviates the potential of duplicating efforts in investigating and tracking progress on suspicious cases. The common review screen allows users to easily share notes on their investigative progress. This common review screen is selected by using the **Assign Exceptions To** text box when running a control point. Otherwise, users may review exceptions on their own Review screen if they are solely responsible for a given region or group of stores.

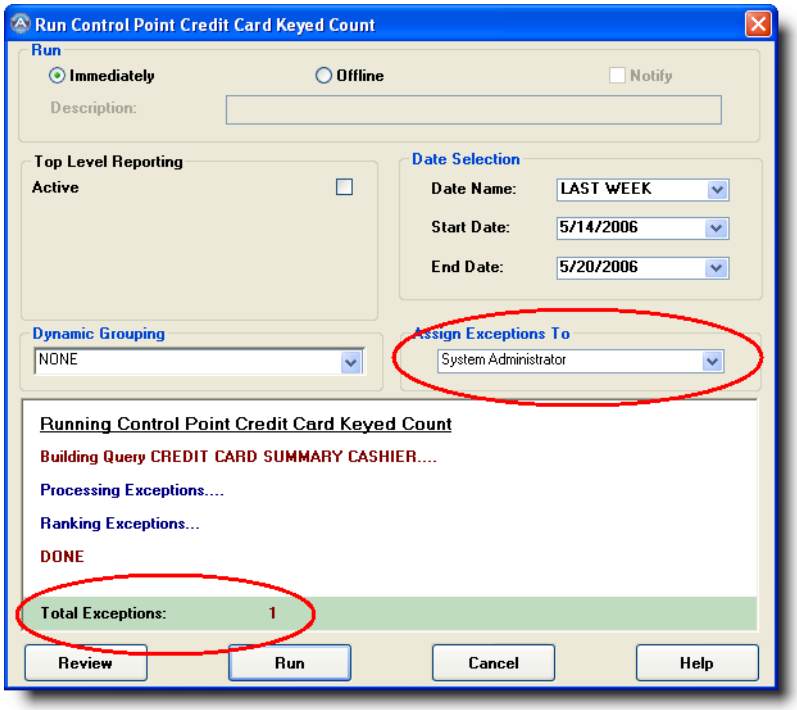


Figure 10-2: Assigning Exceptions

PROCEDURES

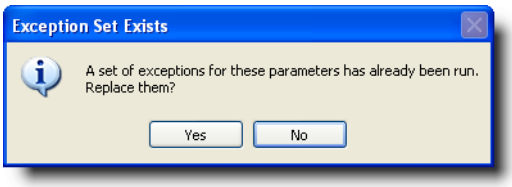
How to Manually Run A Control

1. Click the **Queries** button.
2. Select the **Controls** tab and expand a *Classification*. Expand Queries to list the Control query and the control points associated with that Control query.
3. Double click a **Control Point**.
4. Select **Immediately** or **Offline**. Immediately will run the exceptions and display them on the assigned review screen right away. Offline will run the exceptions in the background, which allows users to continue reviewing exceptions. If you select Offline the exceptions will display on the review screen which was assigned (step 8) once the control has been run. This will depend on the process time that was set up during installation i.e. every 10 minutes.
5. **[OPTIONAL]** If you want to display the top-level records, activate the **Top Level Reporting** check box. The Top Level Field is set to Rank Score/Overall score to determine the top rows. Type the number of rows to be returned in the **Top Level rows** box.

> If you choose Top Level Reporting, the query will find all the exceptions but will only display the number you requested (in the Top Level Rows) on the Exception list window.

6. In the **Date Name** area, select the time frame for which the query will run.
7. **[OPTIONAL]** **Specify Criteria** if you would like to narrow down the results. You can specify a specific region, store, district etc, depending on what was set up in the Control query by the owner. Click the down arrow to see a list of options or type in your option in the text box.
8. In the **Assign Exceptions To** area, select the Review screen where the exceptions should display.
9. Click the **Run** button. You will see the control query run and count the number of exceptions found if you choose Immediately. If however you choose Offline you may move on to research other exceptions.

> TIP
>
> *When a Control is rerun for a date range that was already reported and assigned to the same Review screen, an Exception Set Already Exists message displays. If anyone has already begun working on this exception, click **No** to avoid overwriting his or her work.*



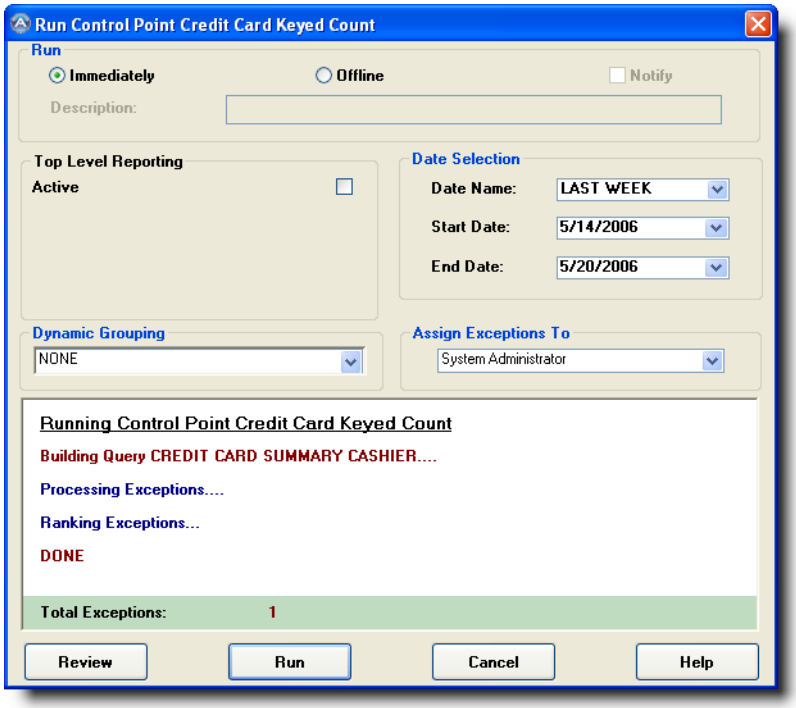


Figure 10-3: Run A Control Point

How to Open the Review Screen

1. Click the **Review**  button. The Review Screen will appear with a **List of Exception sets** for all of the Control Points that have run.

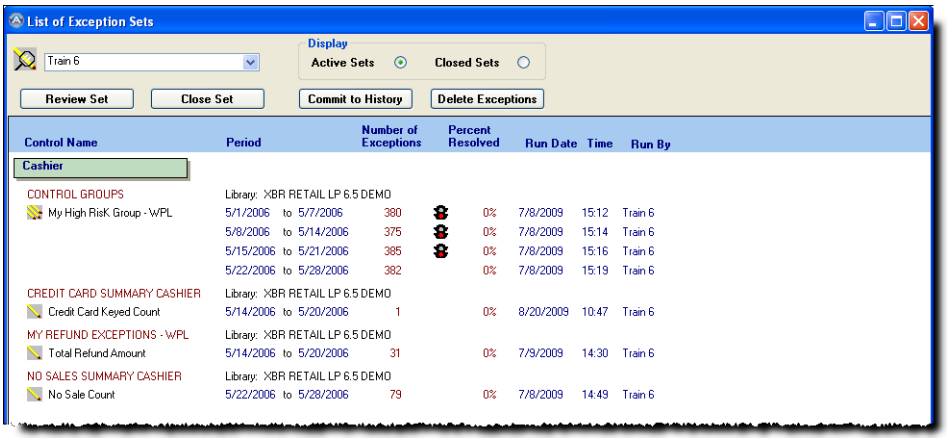


Figure 10-4: Exception Review Screen

2. Select the review screen (for example, System Administrator) used to organize Controls. In this step you are either selecting the ID of the user to whom the Exceptions were assigned if you are using a common Review screen, or your own User ID.
3. The buttons near the top of the window are discussed on page 10-13.

Understanding the Review Screen

When **Controls** are run they are assigned to a review screen. Depending on the size and structure of your organization, it is recommended that a common review screen be used to store all exceptions. This ensures that each user can look in one area to review ALL exceptions and avoids a duplication of efforts. If there is no risk of duplicating efforts, then users can use their own review screen.

To review the exceptions that were detected, users can click the **Review** button. In the List of Exception Sets window, users will see:

- The name of the Control Query and Control Point queries that were run.
- The time period during which the exceptions occurred.
- The number of exceptions found for the specified time period. The number in the parenthesis () is the number the user specified in the Top Level Reporting section and only these exceptions will display on the following screen.
- The percent resolved which tracks investigative progress for a specific set of exceptions.
- The date and time that the Control Point ran.
- The user that ran the Control Point.

Reviewing Exceptions

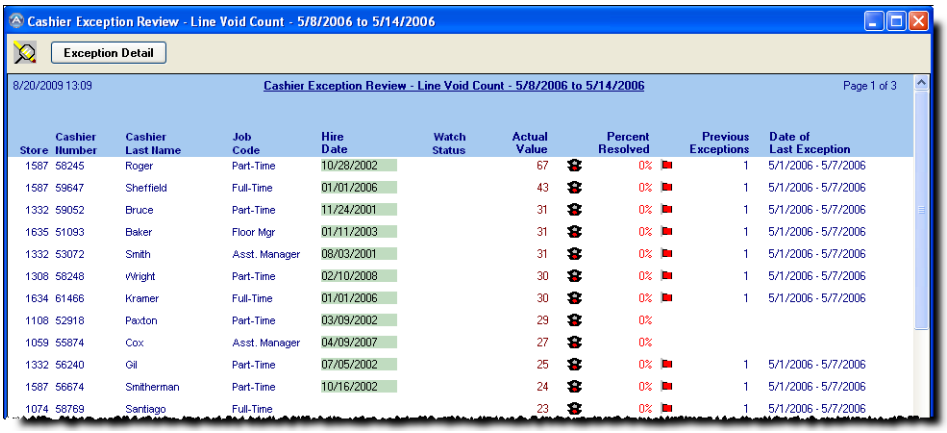
The actual exception activity that occurred during a specified time frame can be viewed by:

- Double clicking the control point or time frame of interest in the Review screen or
- Selecting the control point or time frame of interest from the Review screen and clicking the **Review Set** button.

The following information is available in the **Exception Review** screen:

- **Actual Value** displays the actual value of store or associate activity according to the criteria for the control that is run. For example an actual count or amount that exceeds the threshold for the control point. This window is sorted by the highest value, which indicates the worst offender. For a Control Group the actual value displays in each Control column. Next to the actual value in parenthesis is the individual rank for that specific control.
- **Rank Score** - Only displays if indicated on the Control Target. The rank score is a calculation of the difference between the criteria value that was set and the actual activity that occurred.

- **Percent Resolved** - Allows users to track the progress of their investigations. There are 3 status levels to choose from:
  - Open (0%)
  - In Progress (50%)
  - Closed (100%)
- **Previous Exceptions** - Displays the number of occurrences from history that this employee or store has been an exception for this control point. The date of the last exception occurrence is noted next to the number of previous exceptions.



Store	Cashier Number	Cashier Last Name	Job Code	Hire Date	Watch Status	Actual Value	Percent Resolved	Previous Exceptions	Date of Last Exception
1587	58245	Roger	Part-Time	10/28/2002		67	0%	1	5/1/2006 - 5/7/2006
1587	59647	Sheffield	Full-Time	01/01/2006		43	0%	1	5/1/2006 - 5/7/2006
1332	59052	Bruce	Part-Time	11/24/2001		31	0%	1	5/1/2006 - 5/7/2006
1635	51093	Baker	Floor Mgr	01/11/2003		31	0%	1	5/1/2006 - 5/7/2006
1332	53072	Smith	Asst. Manager	08/03/2001		31	0%	1	5/1/2006 - 5/7/2006
1308	58248	Wright	Part-Time	02/10/2008		30	0%	1	5/1/2006 - 5/7/2006
1634	61466	Kramer	Full-Time	01/01/2006		30	0%	1	5/1/2006 - 5/7/2006
1108	52918	Paxton	Part-Time	03/09/2002		29	0%		
1059	55874	Cox	Asst. Manager	04/09/2007		27	0%		
1332	56240	Gil	Part-Time	07/05/2002		25	0%	1	5/1/2006 - 5/7/2006
1587	56674	Smitherman	Part-Time	10/16/2002		24	0%	1	5/1/2006 - 5/7/2006
1074	58769	Santiago	Full-Time			23	0%	1	5/1/2006 - 5/7/2006

Figure 10-5: Previous Exceptions

- A traffic light  appears when an Alert threshold has been exceeded or when there are excessive repeat occurrences.
- A red flag  appears if there have been previous exceptions in history.

Buttons on Exception Review Screen

This Button...	Does This...
Exception Detail	Displays more information about the selected exception record(s). You could also double-click the record to display the exception details.
Store Detail	Displays information from your Store Master file, allowing you to see a store manager's name or the store's telephone number.
Associate Detail	Displays information from your Associate Master file allowing you to review information such as an associate's job code or date of hire.

How To Review Exceptions

1. Click the **Review** 

button. The **List of Exception Sets** screen appears with a list of all the Control Points and the numbers of exceptions found for each point are listed.
2. Select the user's Review screen that the exceptions are stored in.
3. Double click an **Exception Set** to review the exceptions.
4. From the Exception Review screen you can:
   - Select a row and click the **Exception Detail** button to review specific details about the exception being investigated.
   - **[OPTIONAL]** Select a row and click the **Store Detail** button (if available) to view specific store information from the Store Master such as Store Manager name and Store phone number. Close this window to return to the Exception Review screen.
   - **[OPTIONAL]** Select a row and click the **Associate Detail** button (if available) to view specific information about the employee from the Employee Master such as hire date and job code. Close this window to return to the Exception Review screen.

EXCEPTION DETAILS

The **Exception Details** screen displays the details of the actual exception activity: the actual value versus the threshold value that the control point was measured on, the percent difference between the actual activity and the threshold value, and the rank of the exception compared to the other exceptions in the list. Users can also adjust the status of resolving the exception and view a graphed depiction of the exception history. To view the exception details for any listed exception, select the exception and click the **Exception Details** button.

The following is a list of features that can be viewed in this window:

- The **Control Name**, **Target**, and **Date Range** are at the top of the query - This shows you the control that was run along with the Store and/or cashier you selected from the Exception Review screen.
- **Control Point and Measure** - Indicates which was used to find the exceptions.
- **Start and End Dates** - The dates the exception occurred between. If there are multiple dates listed than there have been previous exceptions for this store or cashier.
- **Weight** - Single control points are assigned a weight of one, which is used in the Rank Score calculation.
- **Actual Value** - The actual activity that occurred during the time frame that the control point ran.
- **Threshold Value** - The customized criteria above which to detect exceptions.
- **Rank** - The placement of this exception compared to all of the other exceptions with 1 being the worst offender.
- **Status** - Can be changed to the following options: Open, In Progress or Closed.
- **Resolution Note** icon - Displays if a Resolution note has been created for this exception.

> Analyst and Read Only users have the ability to add/edit these notes if given permission by the System Administrator within their user profile.

- **Previous Exceptions** icon - A red flag appears if there have been previous exceptions in history.

- **Alert** icon - A traffic light  appears when an Alert threshold has been exceeded or when there are excessive repeat occurrences.

Figure 10-6: Exception Detail

Exception History Graph

How To View the Exception History Graph

1. From the **Exception Detail** window, click the **Graph** button  to view the default graph.

> TIP
> *To return to the data again, click the **Report** button*  .

2. In the **Value** area, you can change the Value options to view the exception values for both actual and threshold to compare differences. For control groups, you can select multiple **Measures** to display in the graph.

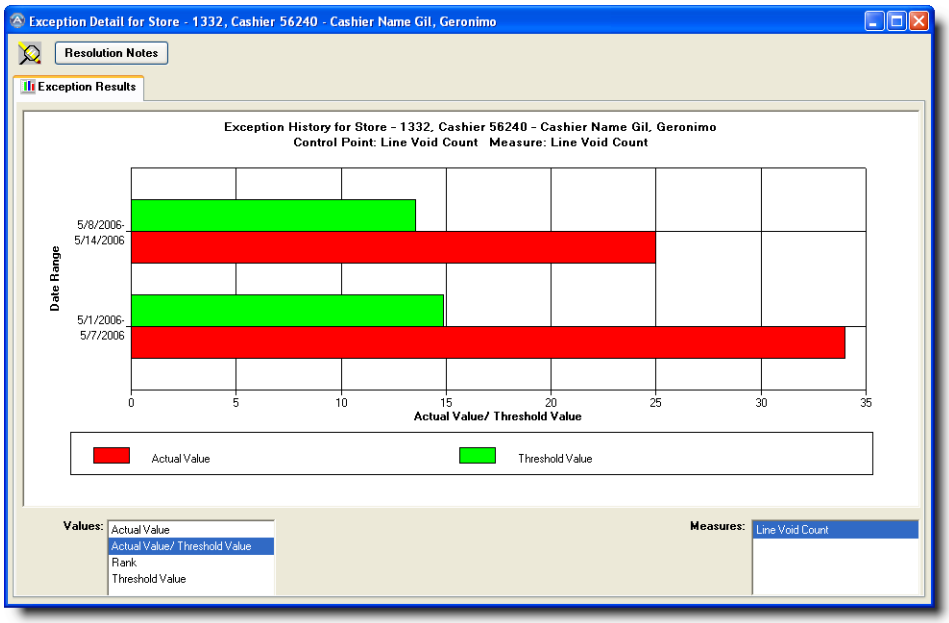


Figure 10-7: Exception History Graph

Linking to Adhoc Queries

How To Link to Adhocs

1. From the **Exception Detail** window, verify the exception is selected. You can use the **[Ctrl]** or **[Shift]** keys to select more than one row to link on multiple weeks of history.
2. Click the **Link** button. If there is more than one query available to link to, the **Select a Query to Link to** dialog box will display.
3. Double click a query from the list to run and display the results.
4. Upon reviewing one or more Adhocs, click the **Exception** button on the Window toolbar or use the Window menu option to locate the **Exception Detail** window to return to the **Exception Detail** window to update the *Status* or post a *Resolution Note*.

> **TIP** *Click the Exception button to quickly return to the Exceptions window.*

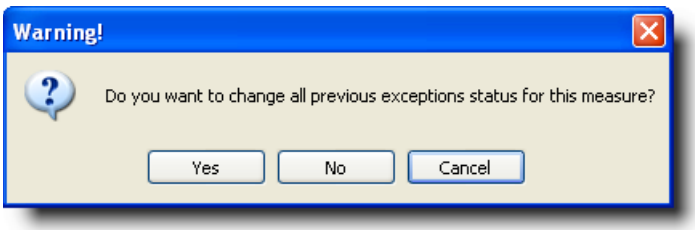
Changing the Exception Status

How To Change the Exception Status

1. From the **Exception Detail** window, click the down arrow on the **Status** list box.

> To see the Percent Resolved update on the List of Exception Sets screen, the List of Exception Sets screen needs to be closed and reopened.

2. Select **Open** (0% resolved), **In Progress** (50% resolved) or **Closed** (100% resolved). If you select the most current date range, you will be asked if you want to update all previous exceptions to the same status.



3. Click **Yes** to change all the previous status fields.

   Click **No** to only change the selected status field.

Resolution Notes

How To Write Resolution Notes

1. From the Exception Detail window, click the **Resolution Notes** button.

> Notes are saved with time stamps that note the author, date and time the note was written. Each note is also given a number for identification purposes.

2. Click the **Add a New Note** button and type a note.
3. Click the **Apply** button.
4. A Resolution note icon is displayed in the **Exception Detail** window when a note has been written.
5. To **Update** or **Delete** a note:
   - **a.** Select the number of the Note from the drop down list.
   - **b.** Click **Update Note** or **Delete Note**. The text of the note appears in the lower text box.
   - **c.** If you are updating the note, make any desired changes and click **Apply Update**.

     If you are deleting the note, click **Apply Delete**.

> Only System Administrators can delete Resolution Notes; however, all security levels can edit their own Resolution Notes.

Cleaning Up the Review Screen

Exception sets remain in the Review window until they are manually removed. It is recommended that when exceptions have been completely investigated, users move them to a closed sets folder or commit them to history.

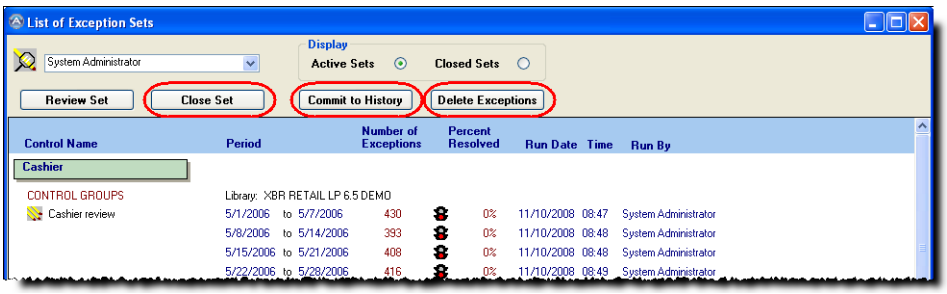


Figure 10-8: Review Screen

Button	Description
Close Set	Moves an Exception Set to the **Closed Sets** window. Select the set you would like to move and click the **Close Set** button. To work with this exception set again, click the **Closed Sets** radio button. All closed exception sets will be listed.
Commit to History	Removes the selected Exception Set from the Review screen but retains the history of occurrences. Use this button when it is no longer necessary to edit Resolution Notes or link to Adhocs to investigate more detail about stores or associates in an exception set. The next time a store or associate from this Exception Set is reported in the same risk category, they will be flagged for previous activity in history.
Delete Exceptions	Permanently removes the Exception Set from the **Review** screen. The store and associate exception information will no longer be available for history.

Defining the Threshold Value

System Administrators, System Managers and Query Owners are the only users that can adjust threshold criteria.

How to Define a Threshold Value

1. Click the **Queries** button.
2. On the **Controls** tab expand a Classification and then expand Queries to list the Control query and the control points associated with that Control query.
3. Select a **Control Point**.
4. Click the **Open** button. The **Control Point Maintenance** dialog box displays with 3 tabs:
   - The Criteria Level section is used to create custom criteria levels. Businesses that prefer to set thresholds based on business volume, can utilize this area to specify those levels and then indicate the preferred thresholds for each of the specified levels as well. For example, a high volume store might have a Cash Refund and Exchange Total threshold by cashier of -$150.00 but a low volume store could be set at a threshold of -$75.00.
   - The Default Criteria area is where users select the fields that will be used as measures and then indicate thresholds and alert values accordingly.
   - The Alert area allows users to create additional alerts based on a history of exception occurrences as well as attaching policy notes and alert messages.

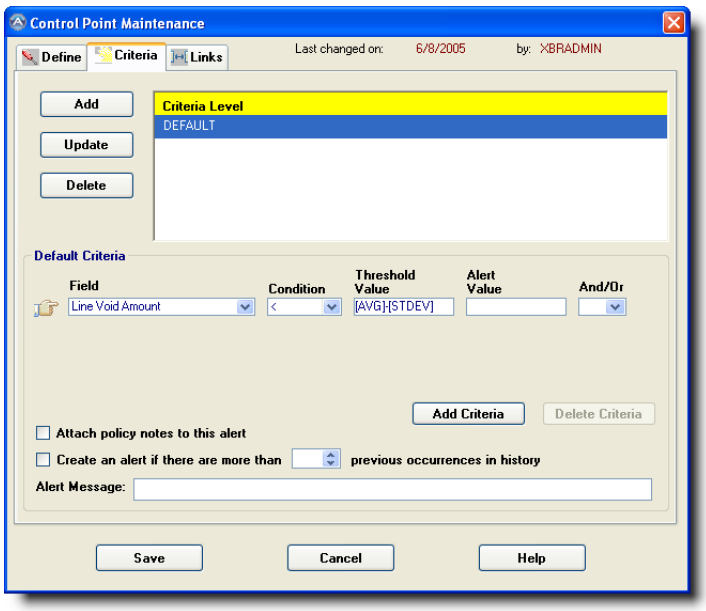


Figure 10-9: Control Point Maintenance Dialog Box

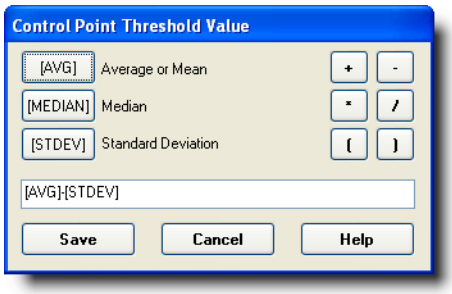
5. In the **Control Point Maintenance** dialog box, click the **Criteria** tab.

> In the Criteria Level area, “Default” refers to a standard for the entire organization. Thresholds can be customized for different areas of the organization by using the **Add**, **Update**, and **Delete** buttons in the **Criteria Level** section at the top.

6. Select the field that will act as a measure for the control point from the **Field** drop-down list.
7. Select an operator that best matches the mathematical expression to detect exceptions from the **Condition** drop-down list.
8. Click in the **Threshold Value** text box and type a value or double click in the **Threshold Value** text box and use the **Control Point Threshold Value** window to create an automated calculation.
9. Click the **Save** button.
10. Close the **Control Point Maintenance** dialog box.

How To Create Calculated Thresholds

1. In the **Control Point Maintenance** dialog box, click the **Criteria** tab.
2. Double-click in the **Threshold Value** text box. The **Control Point Threshold Value** dialog box is displayed and can be used to create an automated calculation.
3. Click the **AVG**, **MEDIAN**, or **STDEV** buttons and operator buttons to create the necessary mathematical expression.
4. Click the **Save** button for the **Control Point Threshold Value** dialog box.
5. Click the **Save** button for the **Control Point Maintenance** dialog box.
6. Close the **Control Point Maintenance** dialog box.



How To Create Custom Thresholds

Custom thresholds can be created for varying segments of the organization. For example, thresholds can be set differently for higher volume stores versus lower volume stores.

1. In the **Control Point Maintenance** dialog box, click the **Criteria** tab.
2. Click the **Add** button from the **Criteria Level** section at the top.
3. In the **Filter** window, double click the Field (Column) name so that it appears in the filter box above.

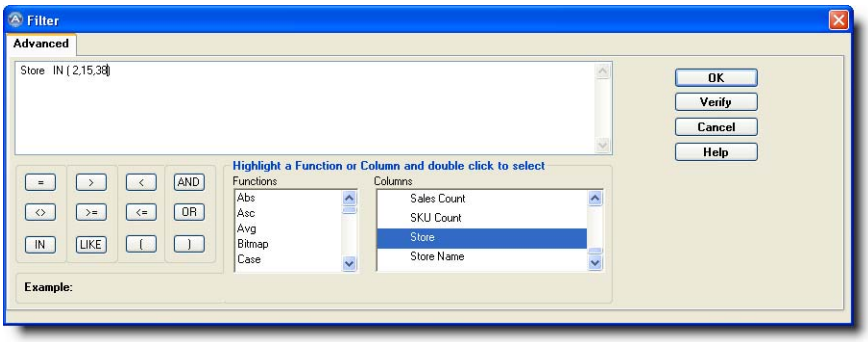


Figure 10-10: Custom Threshold Value Filter

4. Click or type the appropriate operator (<, >, =, in, etc.)
5. Complete the filter by typing in the necessary value(s).
6. Click **OK**.
7. Select the Filter name that was just created in the **Criteria Level** section.
8. Click in the **Threshold Criteria** box and type in a more realistic value for this specifically defined filter or group (Figure 10-11).

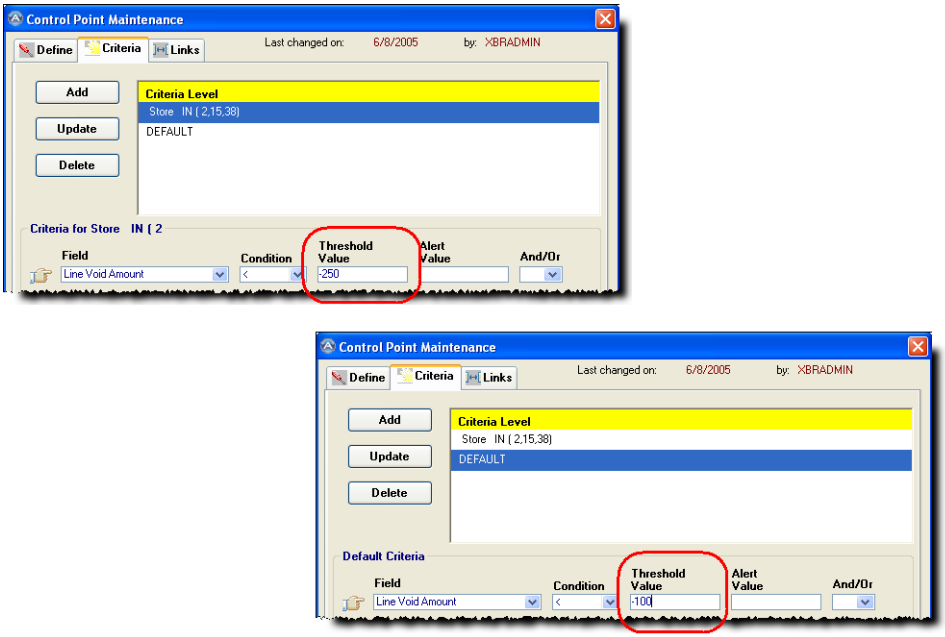


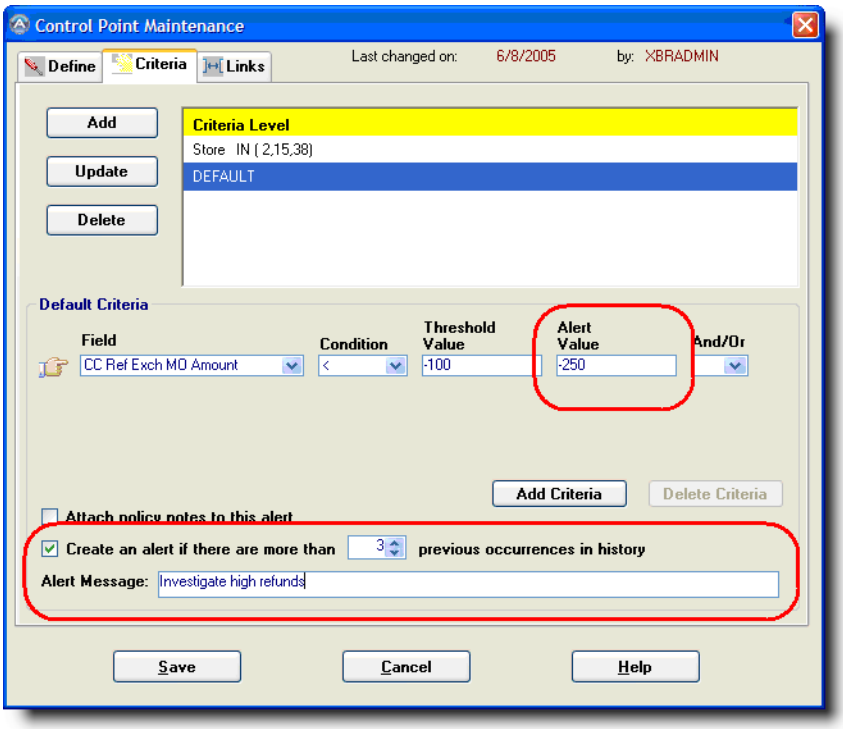
Figure 10-11: Different Threshold values

Create an Alert for a Control

How To Create Alerts

1. In the **Control Point Maintenance** window, click the **Criteria** tab.
2. For an alert value, click in the **Alert Value** text box and type in an accurate value. The alert will automatically be generated when the control point is run.

> If you are not already in the **Control Point Maintenance** window, then the Control Point needs to be opened first prior to creating alerts.



3. Check the **Create an alert if there are more than "?" previous occurrences in history** check box to create an alert for a target that repeatedly exceeds the thresholds. Use the arrows to specify the quantity of occurrences that should occur before an alert is generated.
4. **[Optional]** Click in the **Alert Message** text box and type a message that will appear with the alert.
5. Click **Save**.
6. Close the **Control Point Maintenance** window.

Allowing Analytics to Determine a Control Point Threshold

In the control point setup on the criteria tab you can let Analytics calculate an appropriate threshold. Instead of designating a specific threshold amount or quantity (such as Post Void Total >$2,000) you can use such functions as:

Post Void Total > Chain Average

or

Post Void Total > Chain Average plus standard deviation

Average / Mean: The mean is the average for a set of numbers. The mean is calculated by adding together all of the numbers in a group or set of numbers and dividing by the count of numbers in that group.

Example: To find the mean of the following set of numbers: 2, 9, 3, 16, 5:

1. Add them together: 2+9+3+16+5 = 35
2. Divide by the count of the numbers in the group (5): 35/5 = 7
3. The mean in this example is therefore 7

Median: The median is the number that falls exactly in the middle of a group of numbers. To find the median, first arrange the set of numbers from lowest to highest. Next count off the numbers in pairs of lowest and highest until the middle number is reached.

Example: Using the same set of numbers as above (2, 9, 3, 16, 5):

1. Rearrange them from lowest to highest: 2, 3, 5, 9, 16
2. Count them off in pairs: (2, 16), (3, 9)
3. The only remaining number, 5, is the middle number and therefore the median

Standard Deviation: The **Standard Deviation** measures the disbursement of a group of numbers (in other words, how spread out a set of values is). It is generally represented by a **Bell Curve** and is calculated by taking the square root of the variance. The variance how far away each value is from the average of all the values and is calculated by finding the average of the sum of the square of the difference between the raw number and the mean (average).

Example: Using the following set of numbers: 2, 9, 3, 16, 5

1. Find the average (mean) of all the values: (2+9+3+16+5)/5 = 7

2. Find the deviation by subtracting the average from each value:

2 - 7 = -5
9 - 7 = 2
3 - 7 = -4
16 - 7 = 9
5 - 7 = -2

3. Square the deviation for each value:

$(-5)^2 = 25$
$(2)^2 = 4$
$(-4)^2 = 16$
$(9)^2 = 81$
$(-2)^2 = 4$

4. Find the variance by calculating the average of the squared deviations:

$$\frac{25 + 4 + 16 + 81 + 4}{5} = \frac{130}{5} = 26$$

5. Find the square root of the variance: the square root of 26.0 = 5.1

In this example the standard deviation is 5.1. What this means is that most of the data (68%) falls within +/- 5.1 points of the mean (or one standard deviation). In other words, if the mean is 7, most of the data falls between 1.9 (7-5.1) and 12.1 (7+5.1). Since 2, 3, 5, and 9 all fall within this range, 4 out of the 5 numbers (or 80% of the numbers) are within +/- 1 standard deviation of the mean.

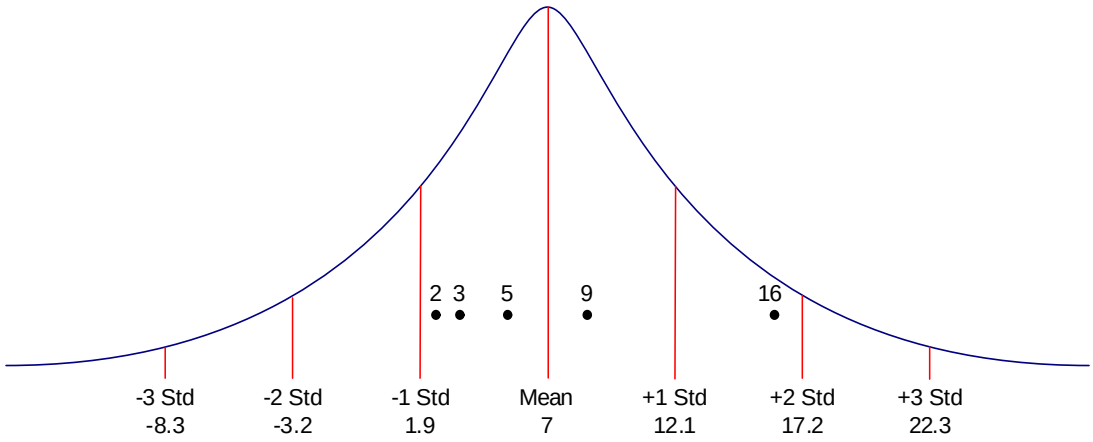


Figure 10-12: Standard Deviation

Using Store and Employee Watch Lists

> If you have upgraded from version 4.x or prior, this functionality may not be available. Contact your Micros-Retail Representative for more information.

The Watch status functionality is used to make users aware of Stores and/or Employees that need to be monitored due to questionable activity. A status such as warning, watch or investigate can be assigned by simply right-clicking in any query results that contain a Store and/or Employee number. Once Stores or Employees have been assigned a Watch Status, you can easily review them by running a watch list Adhoc - **Watch List Associates** or **Watch List Stores**. The Watch Status field exists in the Store and Employee Master Files and can be brought in to a query to enhance analysis.

> Please refer to the *Intermediate Training Guide* for adding fields to queries.

For example, a cashier can be placed on watch for having excessive credit card refund activity. If the watch status field exists in a Post Void query and the cashier shows up in the report, a user will be able to see the watch status flag. By reading the watch status notes, a user can determine why the cashier was placed on watch. The status stays with the cashier number regardless of the activity that caused it.

There are two methods for assigning a **Watch Status**:

- Right-click to use a shortcut method to assign or update a Store or Employee Watch Status and date. Also, add comments explaining why an associate was placed on watch. These steps are explained below.
- Use **Table Editor** to assign or update a Store or Employee Watch Status and date. Also, add comments explaining why an associate was placed on watch.

> Please refer to the *Intermediate Training Guide* for information about using Table Editor.

> Read only users can edit Store and Associate Watch status.

How to Add Stores or Employees to a Watch List

1. Run a Control query.
2. Select the Store(s) or Employee(s) to place on watch.

> For Adhoc queries, use the **[Ctrl]** key to select non-adjacent multiple rows or the **[Shift]** key to select consecutive rows.

3. Right-click anywhere in the report.
4. Select **Update Employee Watch Status** or **Update Store Watch Status**. When you right-click in a query that has both Store and Employee number fields, both Store and Employee watch list options are available. When reporting at the Store level, only the Store watch list option is available.
5. Select the appropriate **Watch Status** from the drop down list.

> TIP *Select **No Status** to remove a Store or Employee from the Watch list.*

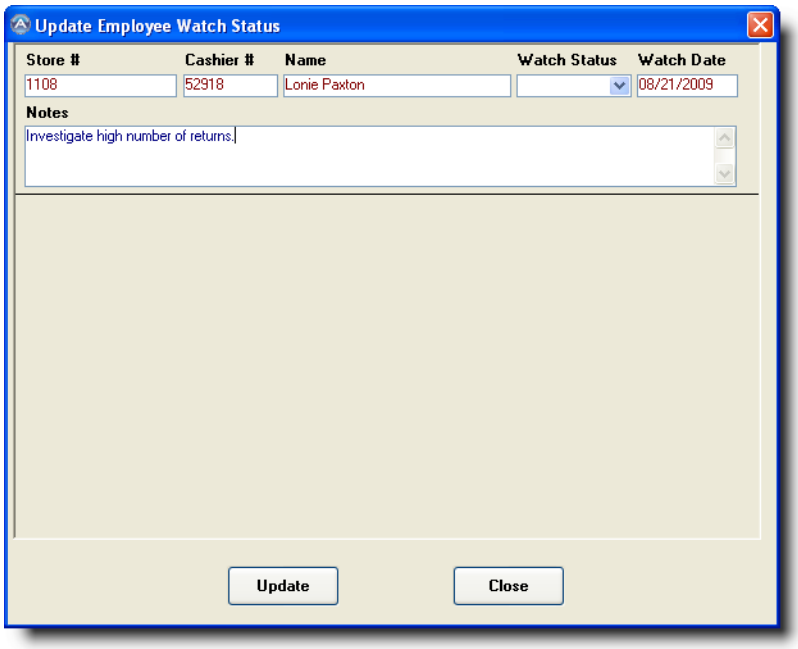


Figure 10-13: Update Employee Watch List

6. Today's date appears as the **Watch Date** but you can type a new date if you would like.
7. Type notes in the **Notes** text box.
8. Click the **Update** button.

How to Run a Watch List Query

You can run a Watch List Adhoc query to review which Stores and Employees have been placed on watch status.

1. From the Adhocs queries list, locate the **Store & Associate Research** classification (see right).
2. Select either the **Watch List Associates** or **Watch List Stores** query.
3. Click the **Run** button. Note the date range will default to None.
4. Review the results. You can right click to update the Store or Employee Watch Status.

CHAPTER 11

Scheduling Queries, Alerts, and EVD Reports

OVERVIEW

You can automate queries by scheduling them to run automatically on a regular basis. By automating Adhocs, the query results can be waiting in the My Reports window, on a printer, in an e-mail, or on a network drive when you come into the office. Control Points can also be automated so the query results are displayed in the Review screen when you arrive at the office.

Users can set specific criteria for scheduled queries that will create an alert. Alerts can be reviewed upon logging into Analytics, via e mail, or a text pager. You will most likely want reports to run overnight but probably do not want to page anyone with an alert until the morning. Therefore alerts can be distributed in the morning after queries are run.

Employee Violations Dashboard (EVD) reports can be generated and distributed through scheduling. EVD reports are generated for each employee/cashier that exceeds one or more alert filters. EVD reports are distributed as PDF attachments via email to users assigned to the run.

Scheduled queries are identified on the query list with a small clock icon next to the query name, indicating that there is at least one scheduled run for that query. A query could potentially have more than one scheduled run assigned to it. For example, some users might prefer a weekly generated report and other users may prefer monthly generated report of the same Adhoc.

The Query Scheduler allows you to manage all of your scheduled queries by providing a list of reports that are actively being distributed. The Query Scheduler allows you to:

- View all existing scheduled queries along with the distribution list.
- View a list of Analytics users and their distribution preferences.
- View a list of Master files that can be used for auto distribution and set distribution preferences.

Master File Distribution is the process of using Master files when scheduling reports for auto-run. Typical Master files used for distribution are Region, District and Store Master files, but custom master files can be created as well. Once the appropriate Master files are created, Analytics System Administrator enters distribution settings for each region, district or store using the Query Scheduler.

The main benefits of using Master File Distribution for query scheduling are that:

- Managers will receive only the transaction information that is applicable to their Region, District or Store. They will not need to filter on the data to eliminate transactions that do not apply to them.
- Reports will be sent directly to their e-mail as an attachment. Users can open the attachment directly without having to run the report in Analytics. This eliminates the need to create individual user profiles (login IDs) for each recipient.
- When scheduling a query, system administrators/managers will only have to select the Master File to use for distribution. They do not need to add each user that needs to receive an automated report.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Schedule Adhocs and Controls
- Modify a scheduled query
- Delete a scheduled query
- Set Alerts for Adhocs and Controls
- Access and review Alerts
- Generating EVD Reports
- Use Query Scheduler to view, modify and delete scheduled runs
- Automate a query using Master File Distribution

PROCEDURES

SCHEDULING ADHOC QUERIES

You can schedule Adhocs to run automatically on a regular basis such as weekly, monthly or a specified time period or to run Offline. Users can also be alerted if specific criteria are exceeded in the Adhoc results when the query is run.

How to Schedule Adhoc Queries

1. Select an Adhoc from the Adhocs tab.

2. Click the **Schedule** 

button. The **Run Maintenance** dialog box is displayed.

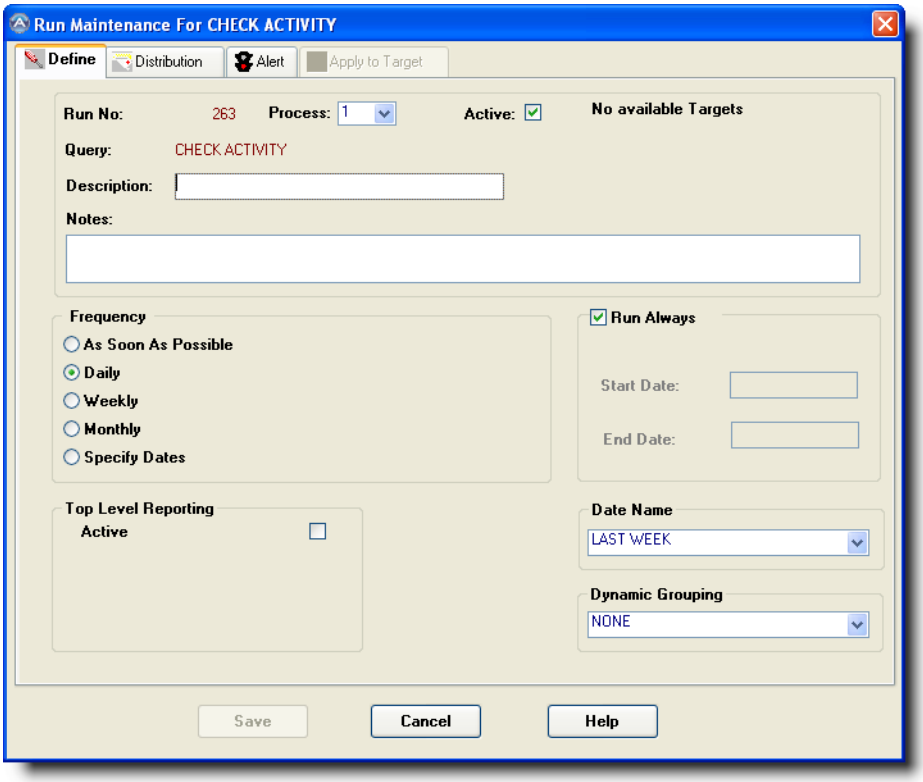


Figure 11-1: Run Maintenance Dialog Box - Define Tab

3. On the **Define** tab:

   a. Select a Process number, which defines when this query will run. The scheduled times for each process are configured in the scheduling software that runs on the server.

b. Click the **Active** check box. You can uncheck the Active check box if you have a query that you do not want to automatically run. You can reactivate at a later date.

c. Type a short description in the **Description** field.

d. **[OPTIONAL]** Type more detailed notes in the **Notes** text box. For example, explain the purpose of scheduling the query as well as the data it will generate.

e. Select the **Frequency** of how often the query should run. When you select **Weekly** or **Monthly**, you are prompted to select the day of the week or month the query should run. Selecting **As Soon As Possible** will run the query as soon as the Offline Reporting process is run. This time frame is set up during installation. As Soon as Possible can not be used with Master Filer option on the Distribution tab.

f. Select **Run Always**, which will run the query indefinitely for the Frequency you selected.

g. If you only want the query to run automatically for a specific period of time choose **Start** and **End Dates**.

h. Select the **Date Name** for the time period you want the query to run. For example, if you schedule a query to run weekly, a Date Name of Last Week would be appropriate.

i. **[OPTIONAL]** - Select a **Dynamic Grouping** if you want to narrow down the results.

j. **[OPTIONAL]** If you want to receive only X number of rows, activate **Top Level Reporting**. Choose a field from the Top Level Field list box to filter on. This will filter the query and only return the top number of rows (the number you indicate in the Top Level Rows box) based on the field you choose. Indicate the number of rows you want returned in the Top Level Rows box.

4. Select the **Distribution** tab.

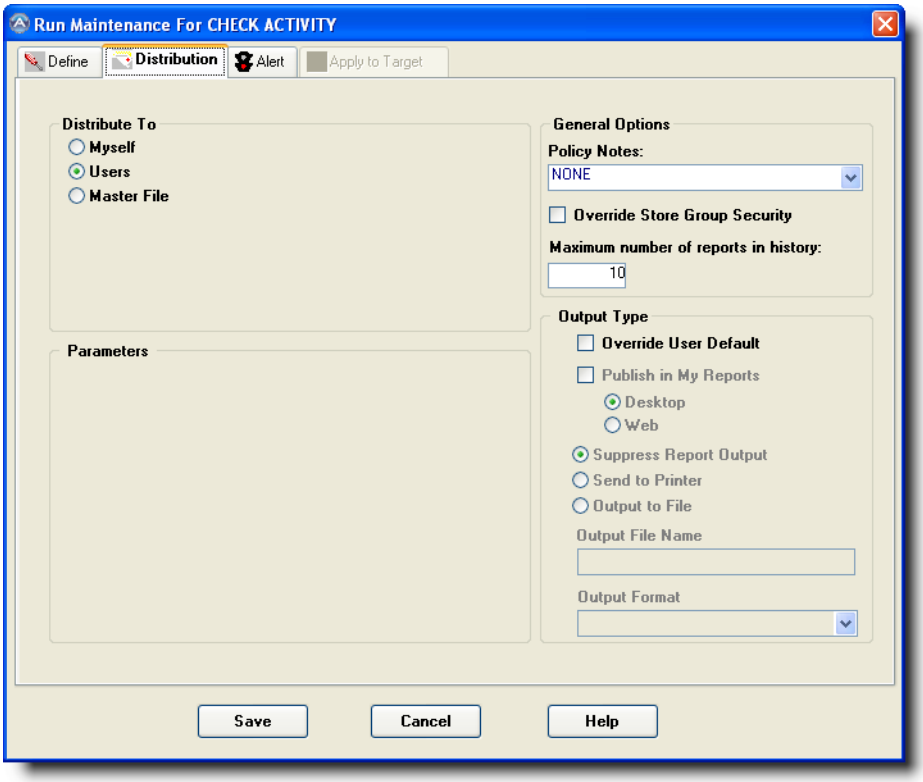


Figure 11-2: Run Maintenance Dialog Box - Distribution Tab

a. Select who you want to receive the query results.

1) Selecting **Myself** will only send the result to you. As an Analyst this is your only option.

2) Selecting **Users** you are able to send specific users the alerts and query results. A System Administrator or Manager has the ability to include multiple users.

3) The **Master File** option is used to generate reports based on master file settings. For example, by using a Store Master, each Store manager could receive a report containing data only for their store. If Store Group Security is being used it does not get applied when using Master File Distribution.

See "Using Master File Distribution" on page 197 for more information.

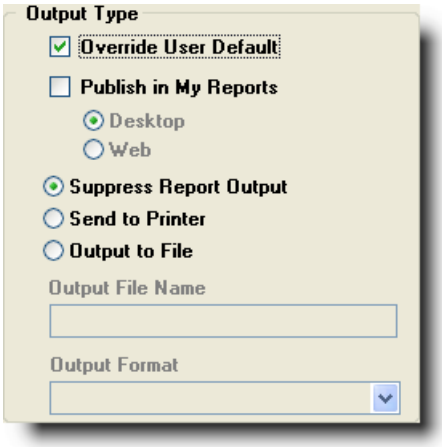
b. If you are scheduling a query that has a parameter such as a multi-use report or a "> X" query, enter the value in the **Parameters** area (see right).

c. **[OPTIONAL]** Select a **Policy Note** to be attached to the report.

d. Select **Override Store group Security** if you do not want Store Group Security applied when sending out results to users. This option is only available to Administrators and not available when selecting Master File.

e. The **Output Type** section is where you can specify how the user will receive the query. Generally you will output reports based on each user's own preferences or those specified in a master file. For example, one user may prefer a Analytics report format while another prefers a spreadsheet, another wants it printed, etc. To do this, leave Override User Default unchecked.

To force the same output for all users, check **Override User Default** then select an output option (see right):



1) Select **Publish in My Reports** if you would like the results to display in the **My Reports** window for the users you are distributing to.

Select **Desktop** if the user has the Analytics Desktop application.

Select **Web** if the user has the Analytics Web Application.

2) **Suppress Report Output** means that no query output will be generated. Use this if you are running queries to check for alert conditions only and you are not planning to send the query results to any users.

3) **Send To Printer** can be used to have the query sent directly to a printer. The printer used will be the default printer for the server that the Query Launcher runs on. If any users need to print reports on their local printer, they should have the query sent to them as a file, which they can then print themselves.

4) **Output to File** will write the query out as a file, which can be emailed to a user or copied to a directory. The file can be output in any of the file formats available to Analytics such as text, HTML, spreadsheet, or Analytics report format. Specify an **Output File Name** and select an **Output Format** from the drop down list.

5. Click the **Save** button. The Scheduling dialog box is displayed:

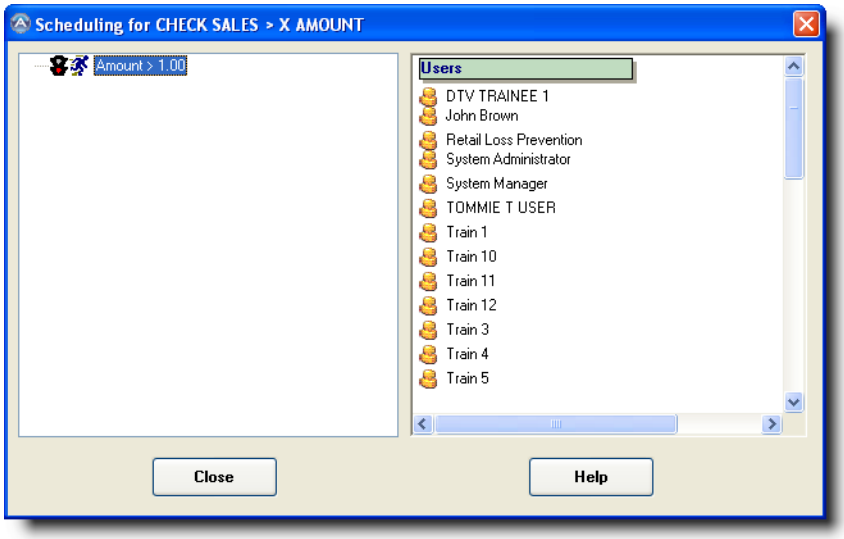


Figure 11-3: Scheduling

System Administrators can assign users to the scheduled query. Click and drag the User ID from the right side to the left side. Drop the User ID **ABOVE** the scheduled query name.

Analyst users can schedule queries for themselves only. They will not have a split window with User IDs on the right side.

6. If you are not going to schedule Alert or EVD reports, click the **Close** button; otherwise, continue with the next section. The scheduled query will appear on the Adhocs tab with a clock icon adjacent to it.

SCHEDULING AND MANAGING ALERT REPORTS

When a query is scheduled to run automatically, users can be alerted if specific criteria outside the normal query criteria is exceeded in the Adhoc results. These alerts can be sent to specific users via email, the Alert window, or both. Alert notification defaults are maintained within their User Profile.

> **!** *Steps 1 through 6 of* *"Scheduling Adhoc Queries" on page 170* ***must*** *be performed before proceeding with this section.*

7. **[OPTIONAL]** Click the **Alert** tab. An alert does not need to be set on every query that you schedule.

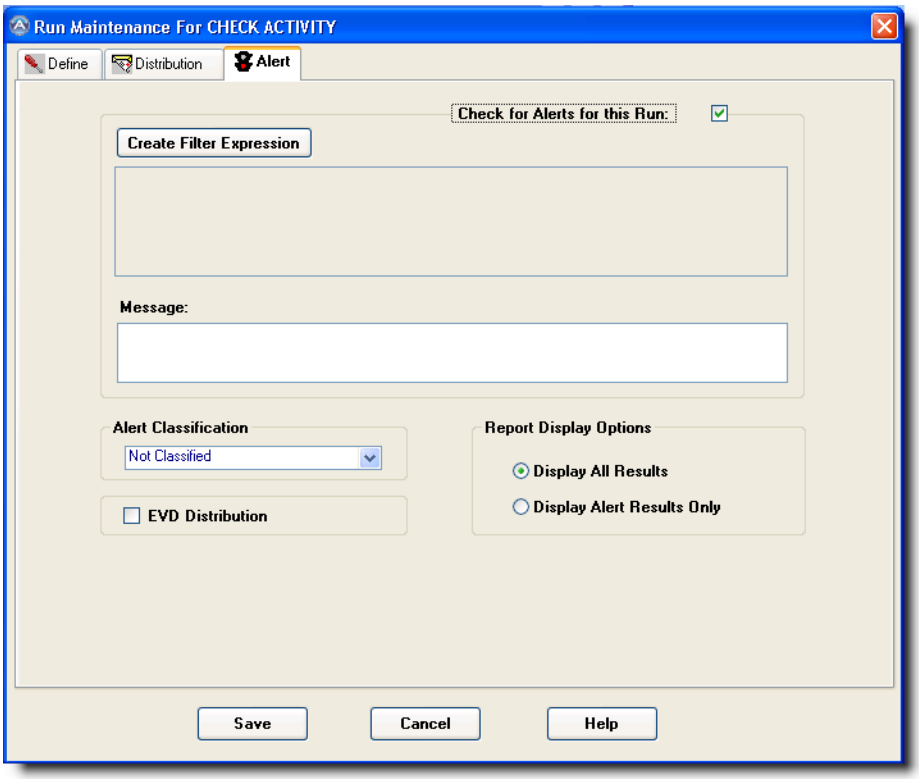


Figure 11-4: Run Maintenance Dialog Box - Alert Tab

a. Select **Check For Alerts For This Run** check box.

b. Click the **Create Filter Expression** button to create criteria for the alert. The Filter dialog box is displayed.

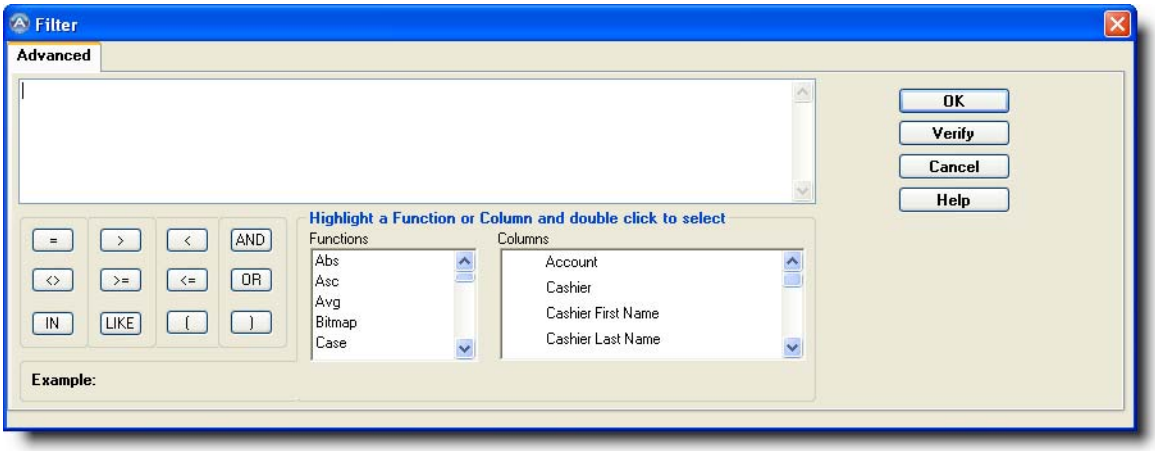


Figure 11-5: Alert Tab - Filter

1) Build an expression to check for a specific condition or value that you want to be notified if data is found when the Adhoc runs. If you do not create a filter you will receive an alert whenever the Adhoc report is generated.

2) Click **OK** when you are finished creating the filter.

c. Type a message in the **Message** text box. This message will be sent to users (based on their alert options) any time an alert condition is detected.

d. Select an **Alert Classification** of where you want the alert to appear on the Alert list in Analytics.

e. Check **EVD Distribution** if you would like an Employee Violation Dashboard (EVD) report generated for each employee that exceeds the alert threshold. See "Employee Violations Dashboard Reports" on page 178 for more information.

f. Select one of the **Report Display Options**:

Display All Results - displays all the results of the scheduled query with the alert results highlighted in yellow.

Display Alert Results Only - only displays the results of the alert and not the entire report.

8. Click the **Save** button. The Scheduling dialog box is displayed:

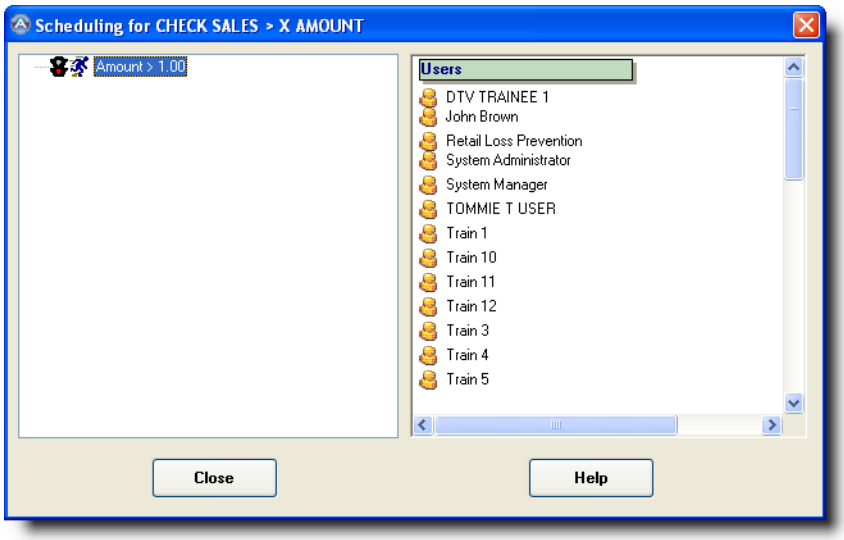


Figure 11-6: Scheduling

System Administrators can assign users to the scheduled query. Click and drag the User ID from the right side to the left side. Drop the User ID **ABOVE** the scheduled query name.

Analyst users can schedule queries for themselves only. They will not have a split window with User IDs on the right side.

9. Click the **Close** button. The scheduled query will appear on the Adhocs tab with a clock icon adjacent to it.

Employee Violations Dashboard Reports

The Employee Violations Dashboard (EVD) report is an employee alert report sent from XBR to end-users. These reports are automatically generated in a PDF format when employees exceed specified criteria for activity. These reports are optional for XBR end-users but are considered a beneficial tool in alerting users of any associate who frequently exceeds set thresholds which can be a threat to company profitability and morale. EVD reports can only be generated if an Alert report is enabled on a scheduled Adhoc. The EVD reports can represent one or more risk areas, depending on the build of the originating Adhoc query.

XBR LOSS PREVENTION

Employee Violations Dashboard

Shop-a-holic
Location 3225 - Main Street
Employee 167140 - Agatha Julian

12/15/2010

Alert - Cancels

07/04/2010 - 07/10/2010

Cancels - A cancel or mid-void is a void of an entire transaction prior to tendering and completing the sale. A receipt may or may not be generated by the POS. Cancels provide an opportunity for a dishonest cashier to pocket the cash because the register will not be expecting the tender. This can be especially prevalent on small amount transactions where the customer isn't looking for a receipt of purchase. An excessive number or total amount of cancels can be investigated by reviewing the detail of subsequent transactions to see if similar merchandise was rung up as a correction of the canceled sale.

KPI Summary

Cancels	Cancel Cnt	Cancel Amt	Cancel Avg	Cancel Pct Ttl Trans	Cancel Pct Net Sales
Agatha Julian	11	$ 138.85	$ 12.62	5.37%	1.32%
Location Averages	2	$ 28.32	$ 15.74	3.41%	1.00%
Chain Averages	0	$ 15.20	$ 35.47	1.33%	0.89%

Alert History (2 previous alerts in the past 180 days)

Business Dates	Alert Date	Violations
06/27 - 07/03/2010	07/04/2010	Cash Refunds, No Sales
06/20 - 06/26/2010	06/27/2010	Post Voids

Watch Notes

Watch Status: **Watch**

Watch Date	Watch Status	Watch Note
07/12/2010	Watch	Cashier ringing suspicious cancels late in the evening.
07/05/2010	Warning	Cashier re-trained on POS

To investigate further or report your findings, log into XBR: https://localhost

micros®

Disclaimer: This alert is an indication that the above mentioned employee's activity has exceeded an acceptable threshold. This may have been caused by fraud, policy violation, training issues, carelessness, or other reasons. It is the responsibility of the end user to interpret the activity and take appropriate action.

Figure 11-7: Sample Retail/Grocery EVD Report

XBR LOSS PREVENTION

Employee Violations Dashboard

Greatest Grill
Location 10900 - Columbus Ave.
Employee 32 - Danny Smith

12/21/2010

Alert - Line Voids

08/15/2010 - 08/21/2010

Line Voids - Line Voids are used to remove one or more individual menu items or service charges from a guest check after the service round has been processed. An excessive number or total amount of line voids can be an indication that the employee is committing void fraud by removing items after the customer has paid and pocketing the tender. Line Void alerts should be investigated by reviewing the guest check detail and determining if there was a justification for the line voids such as seeing a correction because the wrong item was originally entered.

KPI Summary

Line Voids	LV Cnt	LV Ttl	LV Avg	LV % Item	LV % Sales
Danny Smith	58	($ 147.04)	($ 2.54)	1.58%	(2.14%)
Location Averages	8	($ 22.16)	($ 2.68)	1.11%	(1.53%)
Chain Averages	5	($ 13.57)	($ 2.76)	0.89%	(1.22%)

Alert History (2 previous alerts in the past 180 days)

Business Dates	Alert Date	Violations
08/08 - 08/14/2010	08/15/2010	Error Corrects, Employee Meal Discounts
08/01 - 08/07/2010	08/08/2010	Sales Under Threshold, Negative Checks

Watch Notes

Watch Status: **High Risk**

Watch Date	Watch Status	Watch Note
08/13/2010	High Risk	Excessive number of line voids being rung
08/06/2010	Watch	Many employee meals rung
07/31/2010	Warning	Suspicious activity identified late at night

To investigate further or report your findings, log into XBR: https://localhost

micros®

Disclaimer: This alert is an indication that the above mentioned employee's activity has exceeded an acceptable threshold. This may have been caused by fraud, policy violation, training issues, carelessness, or other reasons. It is the responsibility of the end user to interpret the activity and take appropriate action.

Figure 11-8: Sample Foodservice EVD Report

To generate an EVD report from an Adhoc query, the query must contain summary level data which returns rolled up statistics at the cashier/employee level. Summary level data returns one record per cashier/employee in the results of an Adhoc query. EVD reports can not be generated for specific transactions or any other data level in the database.

There are eight (8) Core EVD Key Performance Indicators (KPI) violations that can be achieved by creating an alert filter using a key metric in one of these areas. The content of the EVD will be based upon the field used in the filter.

The EVD KPIs are:

Retail/Grocery KPIs	Foodservice KPIs
Cash Refunds	Line Voids
Post Voids	Error Corrects
Cash Post Voids	Subtotal Discounts
Cancels	Employee Meal Discounts
Line Voids	Tips Over Threshold
No Sales	Sales Under Threshold
Line Discounts	Zero Amount Checks
Price Overrides	Negative Checks

The EVD report will include statistical totals and averages for the employee, location, and chain. In addition, the report will also include:

- Policy Notes for each of the risk areas listed in the letter
- EVD Alert History for the cashier/employee
- Watch Status and notes for the cashier/employee
- Hyperlink to the XBR Web Application

To generate an EVD report, the user needs to have scheduling rights. The standard scheduling setup is followed, including setting up the Alert expression.

Example 1:

If the Alert expression is set to view any cashiers that exceed ten (10) No Sale Transactions, then the EVD report will also generate, if enabled, a report for each of the cashiers that actually met this filter expression. The Alert filter expression would be:

No Sales >= 10

To view more than one risk area on a given EVD report, the Alert criteria must have multiple filter expressions. This is called a "compound filter". Compound filters require parentheses around each individual filter expression with an “AND” or an "OR" separating them and there must be at least one (1) space before ***and*** after the math operators. For example:

Good: No Sales Count > 10
Bad: No Sales Count> 10

.

Compound filters can only be created in XBR Desktop.

Example 2:

If the Alert expression is set to view cashiers that exceed threshold values for multiple risk areas, like both Line Voids and No Sales, then the Alert filter expression would need to be set as follows (ensuring that there are applicable spaces left between the column name, operator, criteria value and OR)

(No Sales >= 10) OR (Line Voids >= 25)

Once the EVD option is enabled, the users that are assigned as recipients of the scheduled Adhoc will receive an EVD report in their email inbox for each cashier exceeding the alert expression(s). The report will be sent as a PDF attachment to the email.

Policy Notes

Policy Notes will automatically be included in the EVD report. The policy name is already configured to the applicable EVD KPI by a Micros-Retail resource. System Administrators and the System Managers can go to the Administration menu within the XBR Desktop to modify the text content of the policy note(s).

Watch Status

If the Watch Status and Notes are updated for a given associate, then this information will automatically populate the EVD report as well. The report will include the date that the associate was added to Watch as well as the applicable status level and any notes.

Scheduling and Setting Alerts for Controls

Controls can be scheduled to automatically display results on a user's Review screen. Users can also be alerted to special conditions that are found when a Control query runs automatically. Controls generate alerts when an Alert Threshold is exceeded or when there are excessive repeat occurrences as described in the Controls section.

How to Schedule a Control Query

1. Select a Control Point from the Controls tab.
2. Click the **Schedule** 

button. The **Run Maintenance** dialog box will display.

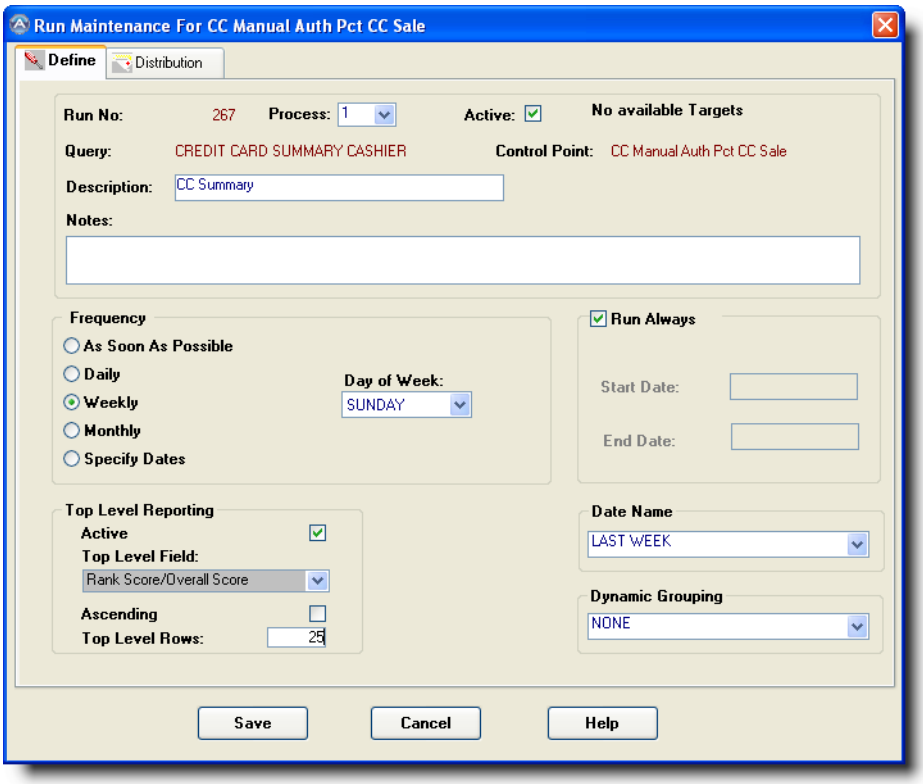


Figure 11-9: Schedule Control - Define Tab

3. On the **Define** tab, select a **Process** number, which defines when this query will run. The scheduled times for each process are configured in the scheduling software that runs on the server.
4. Click the **Active** check box. You can uncheck the **Active** check box if you have a query that you do not want to automatically run. You can reactivate it to run later on.
5. Type a short description in the **Description** field.

6. **[OPTIONAL]** Type more detailed notes in the **Notes** text box. For example, explain the purpose of scheduling it as well as the data it will generate.

7. Select the **Frequency** of how often the query should run. When you select **Weekly** or **Monthly**, you are prompted to select the day of the week or month the query should run. Selecting **As Soon As Possibl**e will run the query as soon as the Offline Reporting process is run. This time frame is set up during installation.

8. Select **Run Always**, which will run the query for the Frequency you selected indefinitely.

   If you only want the query to run automatically for a specific period of time choose **Start** and **End Dates**.

9. Select the **Date Name** for the time period you want the query to run. For example, if you schedule a query to run weekly, a Date Name of Last Week would be appropriate.

10. **[OPTIONAL]** Select a **Dynamic Group** from the drop down list.

11. **[OPTIONAL]** If you want to see only the top X number of exceptions, activate **Top Level Reporting**. The Top Level Field is set to Rank Score/Overall score. Type the number of exceptions you want returned in the Top Level Rows box.

12. Select the **Distribution** tab.

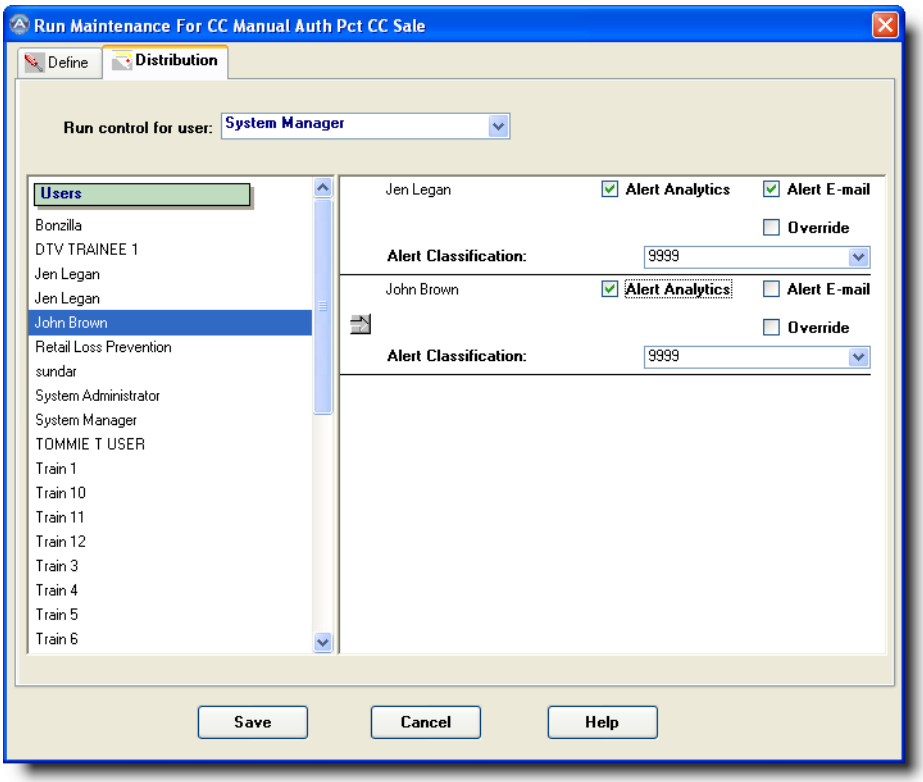


Figure 11-10: Schedule Control - Distribution Tab

13. Select a User's Review screen from the **Run control for user** drop down list where you want the exception set to display. In order for the users to view the exceptions for the scheduled Control Query they will need to select the review screen that is selected in this step. Depending on how your company has set up the review process will determine

which review screen is chosen to display the exceptions that are run for everyone to review.

- Centralized Process - All controls that are run are displayed on one central review screen.
- Decentralized - Each user has their own review screen to display the exceptions they run. However there still can be a central review screen that every user can access and review exceptions that were run.

> The person scheduling the Controls may want to inform users which review screen the exceptions can be reviewed on.

14. Drag and drop the users you would like to be notified if an Alert is detected from left to right. Indicate how you would like each user to be alerted:

a. **Alert Analytics** - Notifies the user when they login to Analytics.

b. **Alert E-mail** - Uses the preferred Email address entered in the user's profile. To send an alert to a different Email address, such as a text pager, select the Override option and type the appropriate address.

c. Select an **Alert Classification** if you want to have the alert appear in a specific category on the Alert List in Analytics.

15. Click the **Save** button.

16. Click the **Close** button. The Scheduling dialog box displays the users you selected to be notified of an alert.

Setting Up an Alert for a Control Query

If you have not already set the Alert Threshold value for a Control Query, you must do so by opening the control point query.

How to Set a Control Query Alert

1. Click the **Queries** 

button.
2. Click the **Controls** tab and open the Control Point you just scheduled and want to set the alert for.

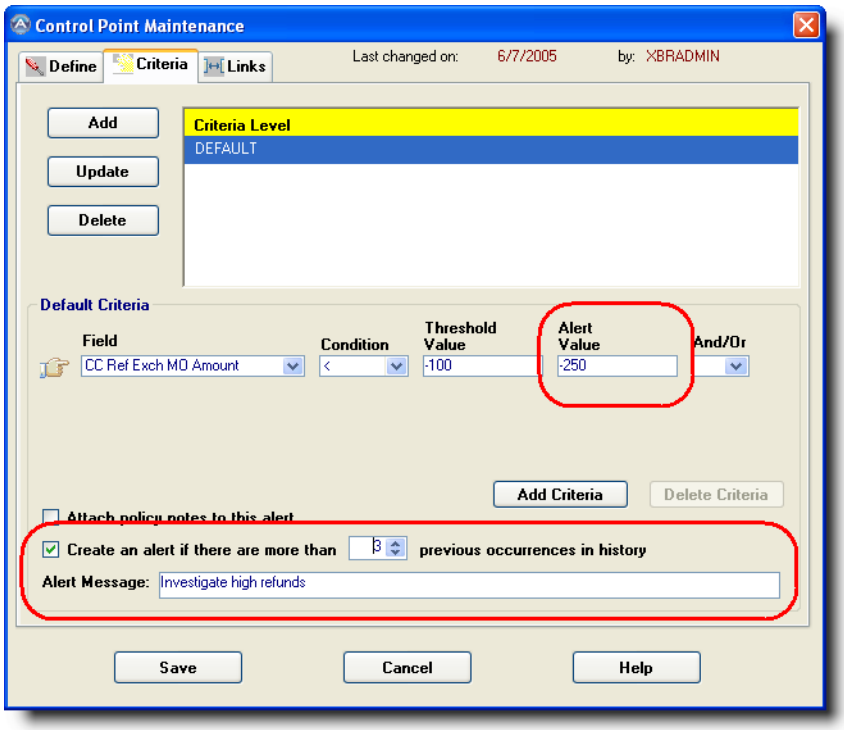


Figure 11-11: Control Query Alert

3. On the **Criteria** tab type an **Alert Value** in the **Default Criteria** section.
   a. **[Optional]** Select and type a number for **Create an Alert if there are more than X previous occurrences in history** if you want to be alerted of excessive exception activity.
   b. **Alert Message** - Type a message, which will display in the Email, a text pager, or Analytics Alert window when a Control detects an Alert.
4. Click the **Save** button.

Modify a Scheduled Query

Scheduled queries can be modified by changing properties such as the frequency or the Adhoc alert criteria, if you set an alert.

How to Modify a Scheduled Query

1. Click the **Queries** button and select the scheduled query you would like to modify.

   Remember that scheduled queries display a clock icon in the queries list.

2. Click the **Schedule** button.
3. Double-click the name of the scheduled query to access the Run Maintenance dialog box (or right-click and select **Edit Run Properties**).
4. Make necessary edits.
5. Click the **Save** button.

Deleting a Scheduled Query

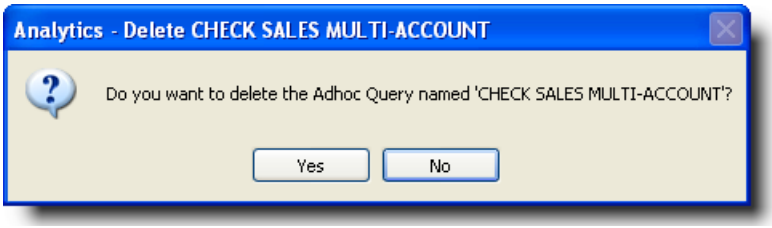
Scheduled queries can be deleted so they no longer automatically run. This also removes any alerts that were associated with that scheduled query.

How to Delete a Scheduled Query

1. Click the **Queries** button and select the scheduled query you would like to delete.

   Remember that scheduled queries display a clock icon in the queries list.

2. Click the **Schedule** button.
3. Right-click over the name of the scheduled query and select **Delete** from the shortcut menu.
4. Click **Yes** to confirm the deletion of the scheduled query.



Scheduled Report Distribution Preferences

You can customize your user profile to indicate how you want to receive scheduled queries and alerts. The only time you would not receive a query or alert this way is if the user setting up the distribution of the query and the alert overrides the User defaults.

How to Set Your User Report Distribution Preferences

1. Select **Administration -> User Profile** from the menu.
2. If you are a System Administrator, double-click on the user's name.

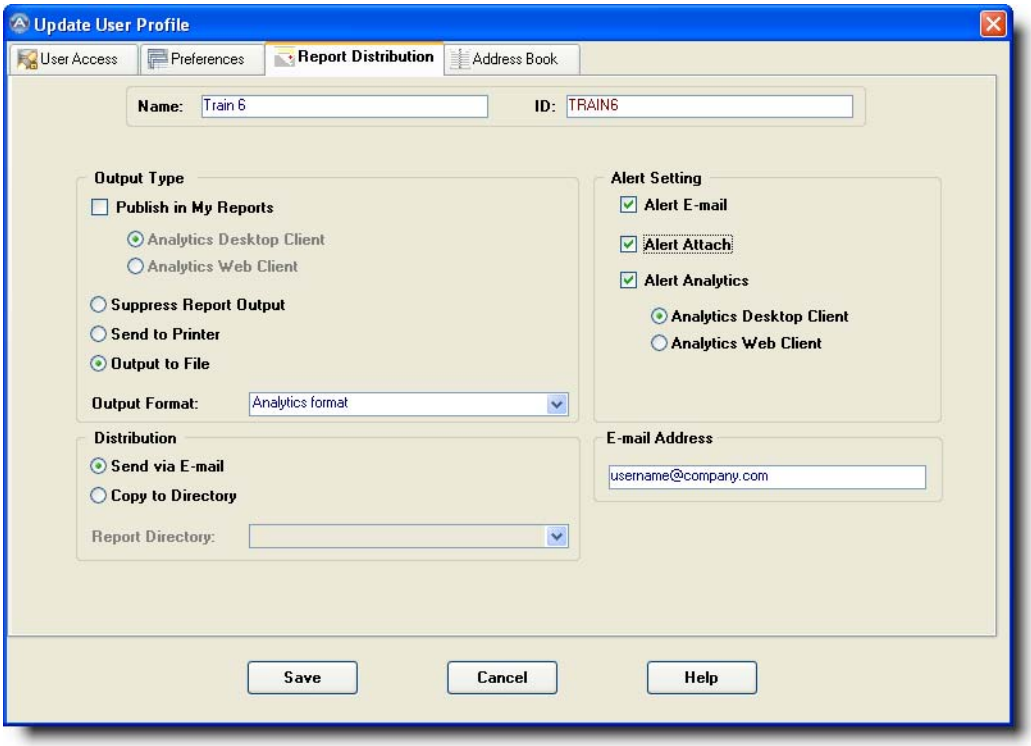


Figure 11-12: User Profile - Report Distribution

3. Select the **Report Distribution** tab.
4. In the **Output Typ**e area, indicate how you want to receive scheduled queries.
   a. Select **Publish in My Reports** if you would like the results to display in the My Reports window.
      1) Select **Analytics Desktop Client** if the user has the Desktop application.
      2) Select **Analytics Web Client** if the user has the Web Application.
   b. **Suppress Report Output** means that no query output will be generated. Use this if you are running queries to check for alert conditions only and you are not planning to send the query results to any users.
   c. **Send To Printer** can be used to have the query sent directly to a printer. The printer used will be the default printer for the server that the Query Launcher runs

on. If any users need to print reports on their local printer, they should have the query sent to them as a file, which they can then print themselves.

d. **Output to File** will write the query out as a file, which can be e-mailed to a user or copied to a directory. The file can be output in any of the file formats available to Analytics such as text, HTML, spreadsheet, or Analytics report format. Specify an Output Format from the drop down list.

5. Set how you want to receive alerts in the Alert Settings area.

   a. **Alert Email** - Click this option if you want alert messages to be sent via e-mail. The address in the Email Address text box is used for this option. It may be an Email address or a text pager address.

   b. **Alert Attach** - Click this option if a report should be sent along with an alert warning via e-mail. You wouldn't want to use this option if the alert were being e-mailed to a text pager. This option uses the file format of the Output Format setting. This option does not apply to the Web Application.

   c. **Alert Analytics** - Click this option if you would like to review alert warnings in Analytics upon logging in.

6. In the Distribution area indicate if queries should be copied to a directory or sent as an attachment via email

   a. **Send via E-mail** - If the query will be e-mailed, enter an e-mail address. For multiple addresses, separate entries with a space.

   b. **Copy to Directory** - If the query will be copied to a directory, use the drop down arrow in the Report Directory area to specify where the file will be placed. The options that appear here are the servers' drive mappings.

7. Click the **Save** button.

Reading Alert Messages in Email

Similar to sending Adhoc queries as attachments, email can be sent to display alert messages. You can email a group of people, which can be defined in Analytics or using the Analytics Scheduler.

The Adhoc query that caused an alert can be emailed as an attachment. This is defined in the user's profile.

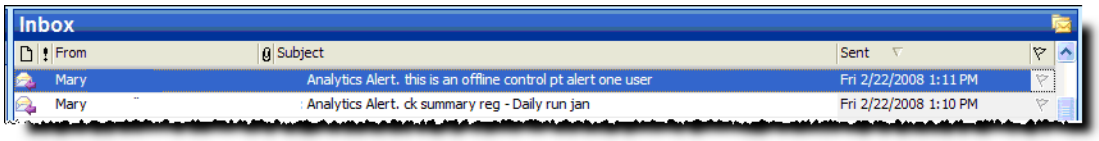


Figure 11-13: Email Alerts

Reading Alert Messages in Analytics

A pop-up box appears upon logging in to Analytics when there are unread Alert messages waiting for you. The Alerts could be generated via Adhoc or Control queries. Use the **Show Alert List** button to review the notifications or click the Close button to review them later.

How to Access and View Alerts

1. Click the Alerts button on the System toolbar. The lights on this button blink when there are new alerts, which have not been read. The **Alert Notification** list is displayed.

Figure 11-14: Alert Notification List

2. Alert notifications can be sorted by **Alert Classification** or by **Date**.
3. Select an alert message, then click one of the following buttons:

   Close - Closes the **Alerts** window.

   Delete - Removes the selected alert from the **Alerts** window. Use this after you have read an alert and reviewed the query that generated it.

> You can select multiple alerts to delete. Click the alerts while holding down the **[Shift]** key to select contiguous records or the **[Ctrl]** key for non-contiguous records.

Review - Displays the query that generated the alert. Users can also double-click an alert to display the query. For an Adhoc, rows that exceed the Alert threshold are highlighted in yellow. For a Control, the Review screen will appear with the exception set containing the alert highlighted.

Forward - Allows you to send an alert to another Analytics user. When the recipient of the forwarded alert logs into Analytics, they will see the Alert message box.

USING THE QUERY SCHEDULER

Query scheduler provides a convenient way to manage existing scheduled queries within your Analytics system. To launch Query Scheduler, select **Administration -> Scheduler -> Schedule Queries**.

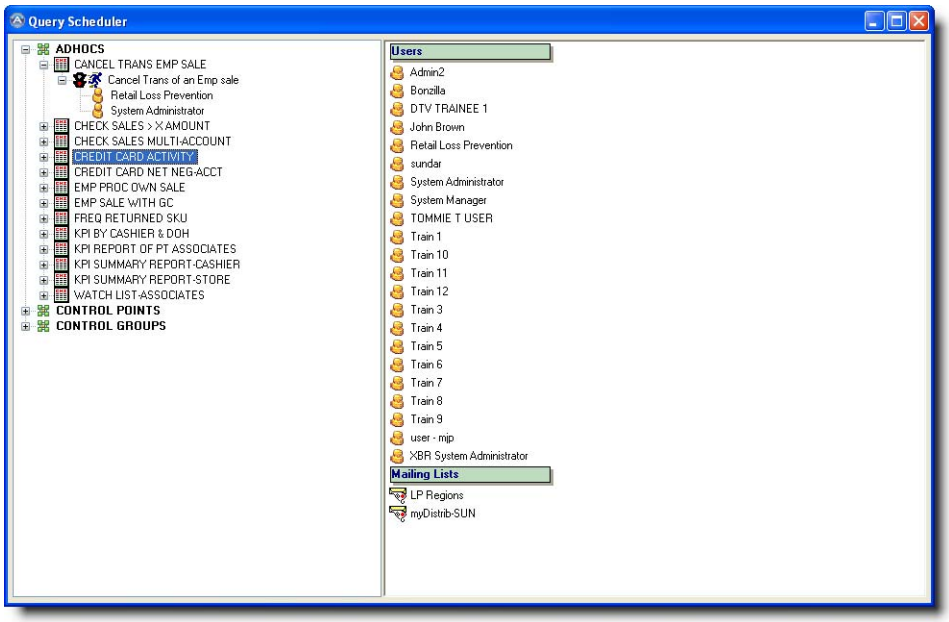


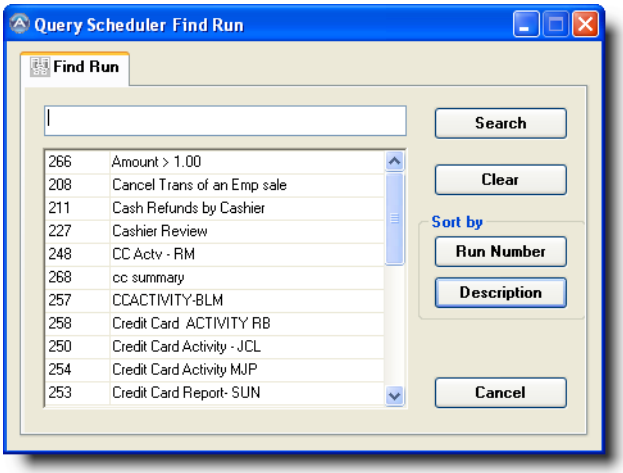
Figure 11-15: Query Scheduler

Viewing Scheduled Runs

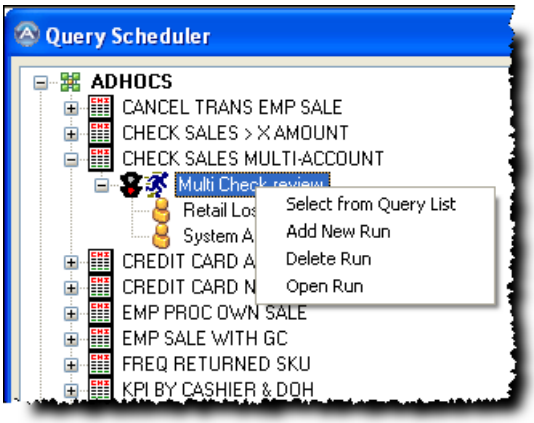
The tree view on the left side allows you to expand the various levels of information. For example, click on the "+" adjacent to an Adhoc query to view the name of the scheduled run. Click on the next "+" to view the list of users who will receive the query results.

There are a number of Window Toolbar options within the Query Scheduler:

This button	Does this...
	The **Close** button allows you to close the Query Scheduler window. To reopen, click the Scheduler button on the System toolbar.
	The **New** button is used to add a new scheduled run for the adhoc query selected.
	The **Delete** button is used to delete a scheduled run.

This button	Does this...
	The **Open** button is used to open a scheduled run (when the run name is selected) or open a user's distribution preferences (when a user name is selected).
	The **Find Run** button allows you to locate an existing scheduled run using the Query Scheduler Find Run window. 
	When **All Runs** is selected, all scheduled runs will display.
	When **Active Runs** is selected, only Active scheduled runs will display.
	When **Inactive Runs** is selected, only Inactive scheduled runs will display.

From the Query Scheduler it is very easy to edit, delete or add new runs to a query. To view available options right click on a run.



The **Add New Run** and **Open Run** options will launch the **Run Maintenance** window allowing you to make changes to an existing run or add a new run.

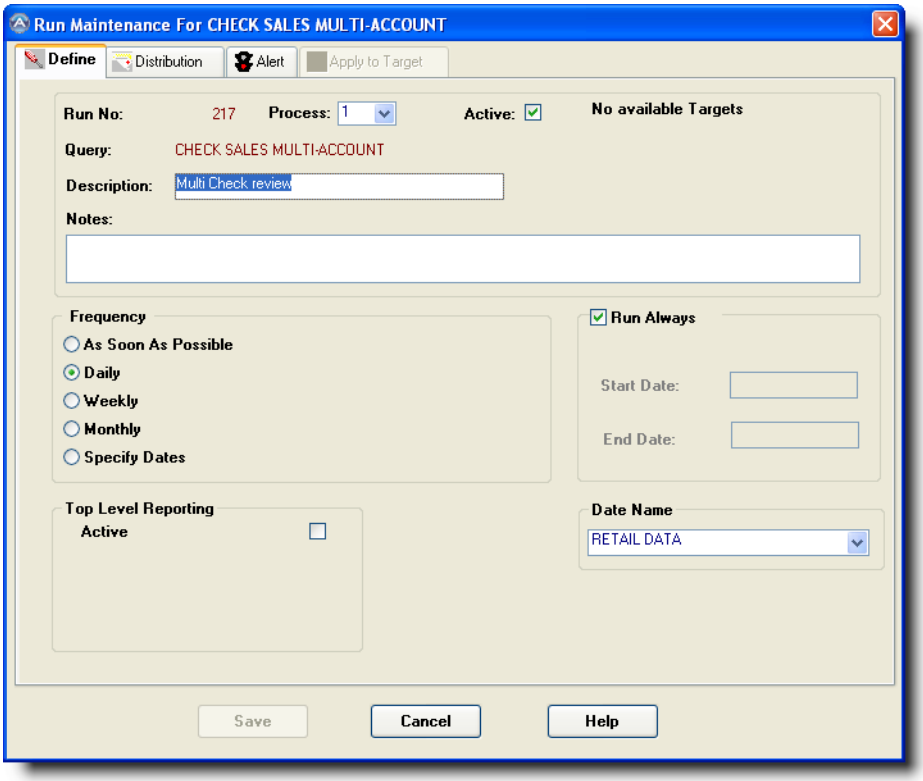
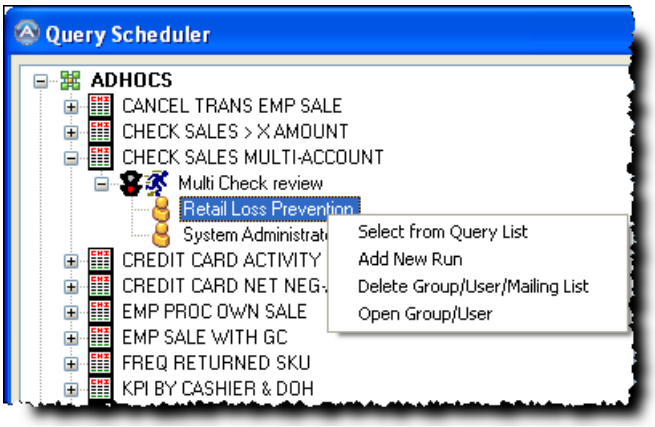


Figure 11-16: Run Maintenance Window

You can also make changes to the distribution list and review or edit a user's preferences. To add users, drag and drop the user name from right to left. To remove users, drag and drop from left to right. To view a user's distribution preferences, right-click on a user name to view available options.



When you select **Open Group / User**, the **Run Properties** for the user the User's Run Properties dialog box will display. To update any settings, click the Override Profile Defaults option. This will only change the properties for the scheduled run, not the user's preferences for all runs.

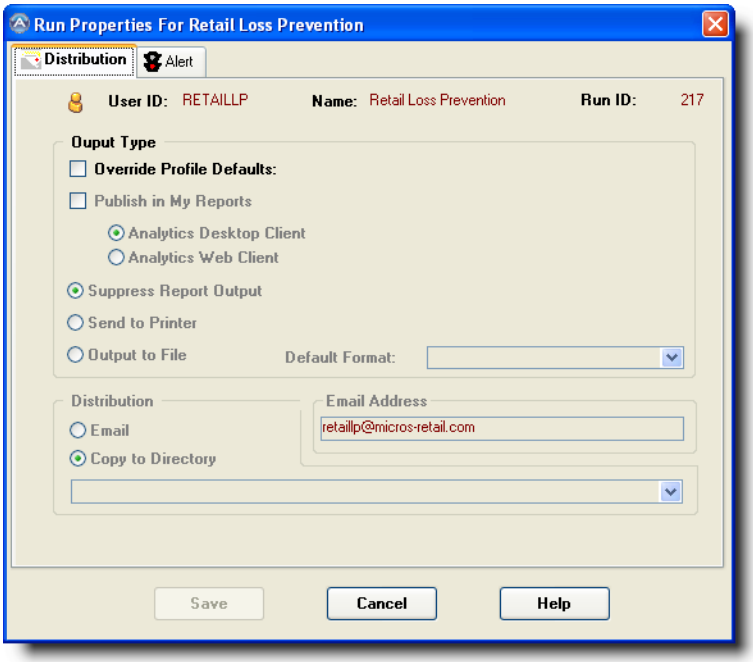


Figure 11-17: Run Properties Window

Viewing Distribution Information

To view Distribution information, select **Administration -> Scheduler -> Distribution Info** from the Window menu to view and edit a user's distribution preferences for scheduled runs as well as master file distribution settings. Click the "+" next to the Users classification and a list of all system users will display. Double-click on a user name and the **User Distribution Maintenance** window will launch allowing you to make any changes.

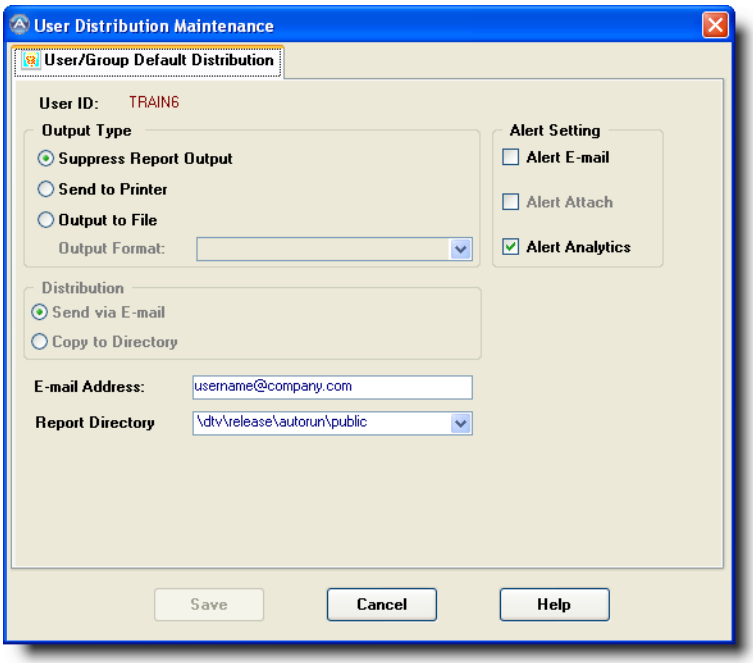


Figure 11-18: User Distribution

The **Master Files** classification allows you to set distribution preferences for each recipient in a master file. For example, designate the query result file format and e-mail address for the store manager at Store #1. Please refer to the following section on Using Master File Distribution.

Viewing Process Information

To view Process information, select **Administration -> Scheduler -> Process Maintenance** from the Window menu to view all existing processes and access flags. The Process # corresponds to a time of day that the scheduled run will kick off and is determined on the database back end. More than one Process can be defined for different times of day. In order for Analyst level users to be able to schedule queries, the Access Flag should display 'User' for the given Process #.

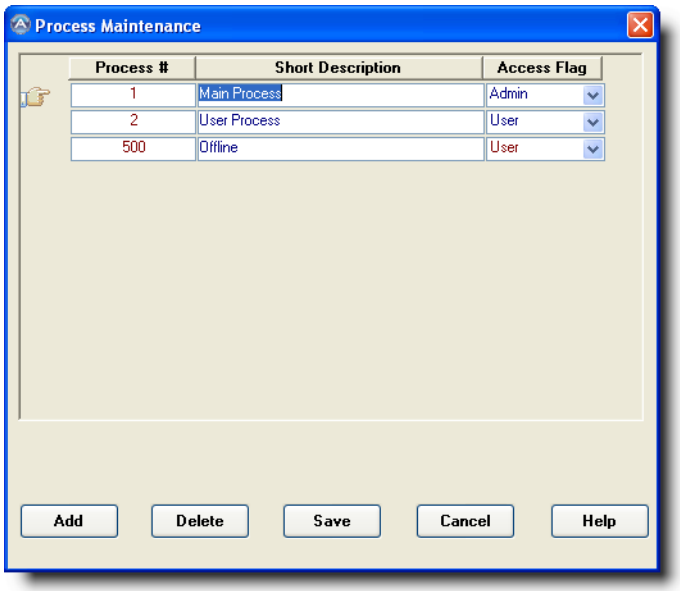


Figure 11-19: Process Maintenance

USING MASTER FILE DISTRIBUTION

Scheduling a query to distribute using master file distribution requires four basic steps:

- Select a master file to be used for distribution
- Enter distribution settings for each key field in the master file
- Prepare a query for Master File Distribution
- Schedule a query using Master File Distribution

Store Group Security is not applied when using Master File Distribution

Select a Master File

In order for a master file to be used for master file distribution, a setting must be selected via the Data Dictionary.

How to Select a Master File for Distribution

1. Select **Administration -> Data Dictionary** from the Window menu.
2. In **System Tables**, locate the file to be used for master file distribution (for example, Store Master).

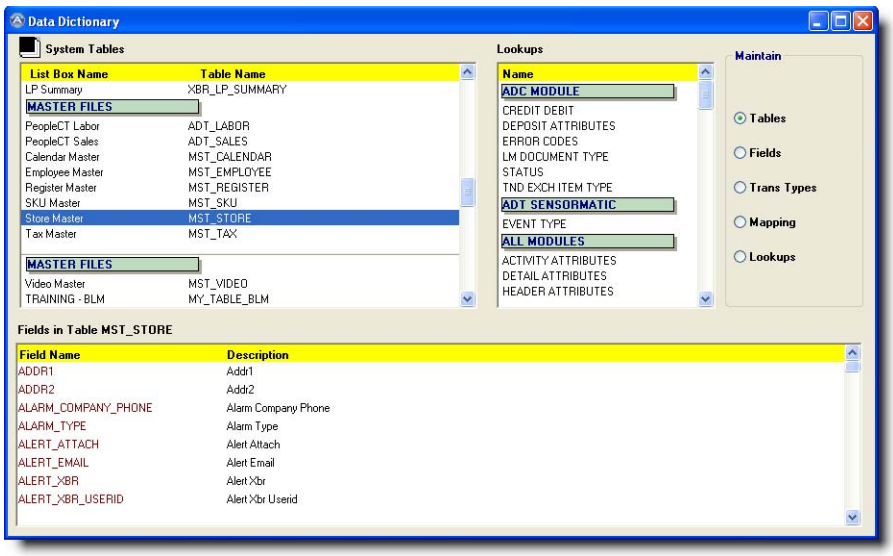


Figure 11-20: Data Dictionary - System Tables

3. Double click the table name and click **Use For Distribution** field.

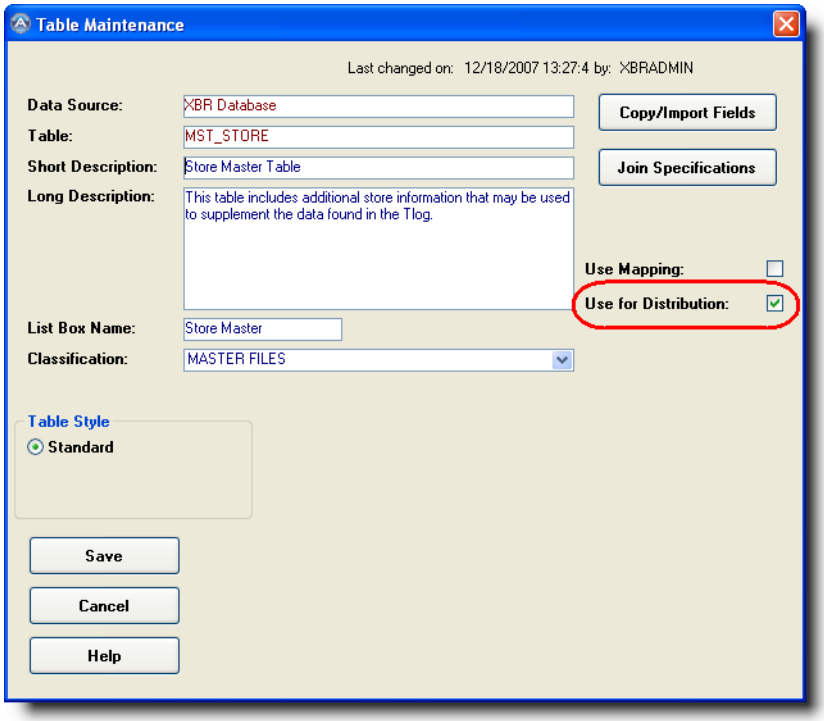


Figure 11-21: Use for Distribution

4. **Save** and **Close** the **Table Maintenance** window.
5. **Close** the Data Dictionary.

Enter Distribution Settings for a Master File

In order to distribute a query using a master file, you need to indicate how the query results will be received by each Store, for example, when distributing via the Store master. The Query Scheduler allows you to determine such settings as file format and e-mail address for the recipients.

How to Enter Distribution Settings for a Master File

1. Select **Administration -> Scheduler -> Distribution Info** from the Window menu.
2. On the left side of the window, expand Master Files and then click Store Master to display each store on the right side of the screen.

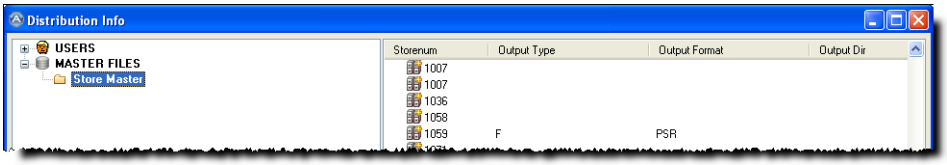


Figure 11-22: Distribution Info - Store Master

3. On the right side of the screen, double-click on the key field (i.e. store number if distributing by store) to display the distribution settings for each key.

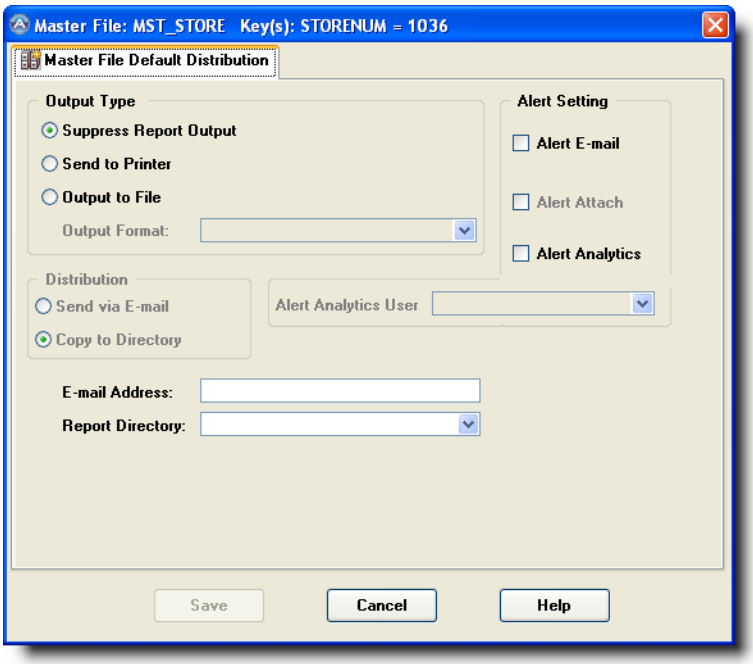


Figure 11-23: Distribution Settings

4. In the **Output Type** area, select **Output to File** and the **Output Format** in which reports should be e-mailed.
5. In the **Distribution** area, select **Send via E-Mail** and enter the appropriate E-mail address in the **E-mail Address** text box.

   For multiple e-mail addresses, separate addresses with a space.
6. Click the **Save** button to save your changes.
7. Repeat steps 3 - 6 until you have entered the distribution settings for each Store, Region, or District that will receive reports.
8. To view distribution settings entered, close the **Distribution Info** window and re-launch it.

Prepare a Query for Master File Distribution

Next, a System Administrator prepares the queries that will be distributed via a master file by adding a parameter to prompt for the key field in the master file, such as Store, Region, or District. However, users won't need this prompt when running the query manually. Therefore it is recommended to save a copy of the original query and add a parameter to the new copy.

How to Prepare a Query for Master File Distribution

1. Locate and Open the query you would like to schedule and distribute via a master file.
2. Click the **Save As** button and give this query a new name.

> TIP *Name the new copy of the query with "MFD" at the end of the query name where "MFD" represents Master File Distribution.*

> If you will be scheduling numerous queries using Master File Distribution, it might be helpful to create a new classification called "MFD Queries" and save the queries to this classification (folder).

3. Click **OK**.
4. Click the **Criteria** tab.
5. Click the **Add** button to create a new parameter.

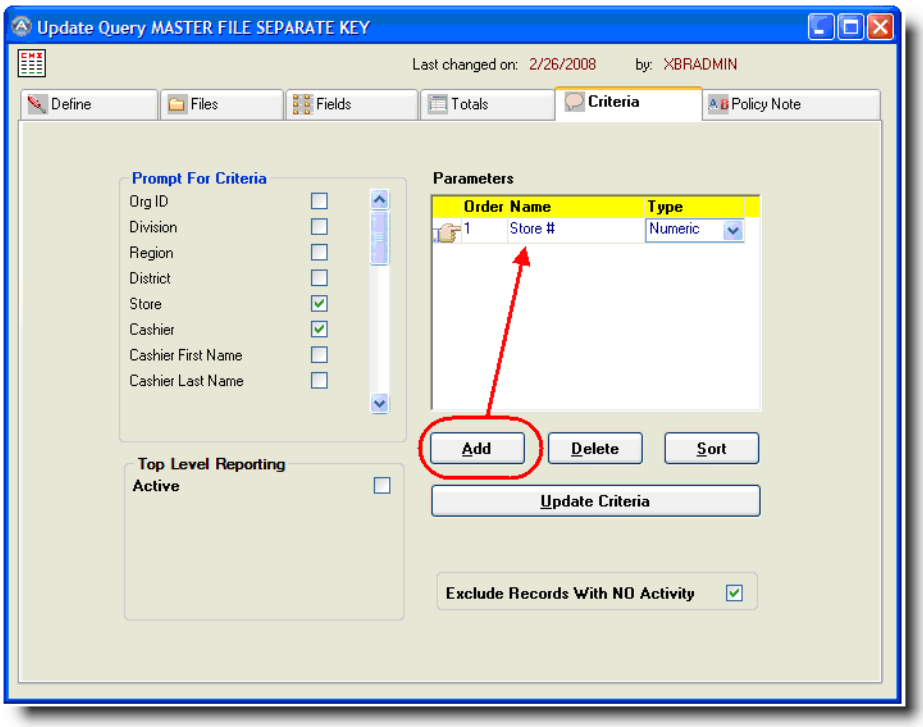


Figure 11-24: Add Parameter

6. Name the parameter (i.e. Store Number) and indicate that it is Numeric. This parameter corresponds to the key field in the master file.
7. Click the **Update Criteria** button.
8. On the **Field Criteria** tab, if criteria is already there click at the end of the statement and type “and”. If not then click in the box and proceed to the next step.
9. Select the appropriate Database Table and double-click the **Database Field** you are using for master file distribution, such as Store Number. The field will appear on the **Field Criteria** tab.
10. Type “=” after the field name and in the **Parameters** drop down, click the down arrow and select the name of the parameter that you added to this query. A question mark will appear before the parameter name.

    The new criteria will appear similar to this text: MST_STORE.STORENUM =?Store #.

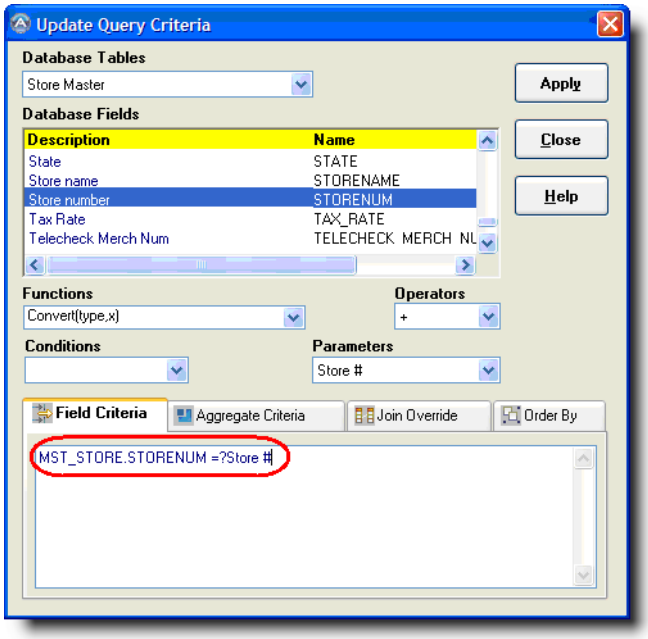


Figure 11-25: Update Query Criteria

11. Click the **Apply** button and the **Close** button to return to the Criteria tab.

12. Click the **Run** button before saving the query. There should be a parameter prompt allowing you to enter a value such as Store #.

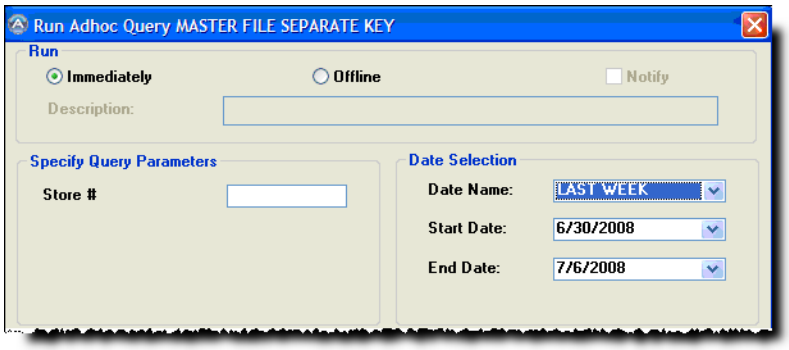


Figure 11-26: Run Query with New Query Parameter

13. Cancel the query.

14. Save and **Close** the query.

Schedule a Query Using Master File Distribution

The last step is to schedule the query to run automatically and distribute the results using master file distribution.

How to Schedule a Query Using Master File Distribution

1. Highlight the query that was modified for master file distribution and click the **Schedule** 

button.

2. On the **Define** tab:

a. Select a **Process**, which defines the time that this scheduled query will run.

> If a negative one (-1) appears in the **Process** field for Analyst level users, the System Administrator must update a system setting via the Query Scheduler to allow Analysts to schedule queries. Please refer to "Viewing Process Information" on page 196.

b. Click the **Active** check box if you are ready for the query to run at its scheduled frequency and time.

c. Type a **Description** for the scheduled report.

d. In the **Notes** area, add any additional information that will help identify the purpose of the scheduled query. For example, describe how often it will run.

e. In the **Frequency** area, select when this report will run (for example, daily or weekly). If you select weekly or monthly, remember to select the day of the week or

month on which the report will run and be distributed. Select **As Soon As Possible** if you want it to run right away.

f. In the **Date Name** area, select the time period for which the report will be generated. For example, if **Frequency** is Weekly, select Last Week for the Date Name.

3. On the **Distribution** tab:

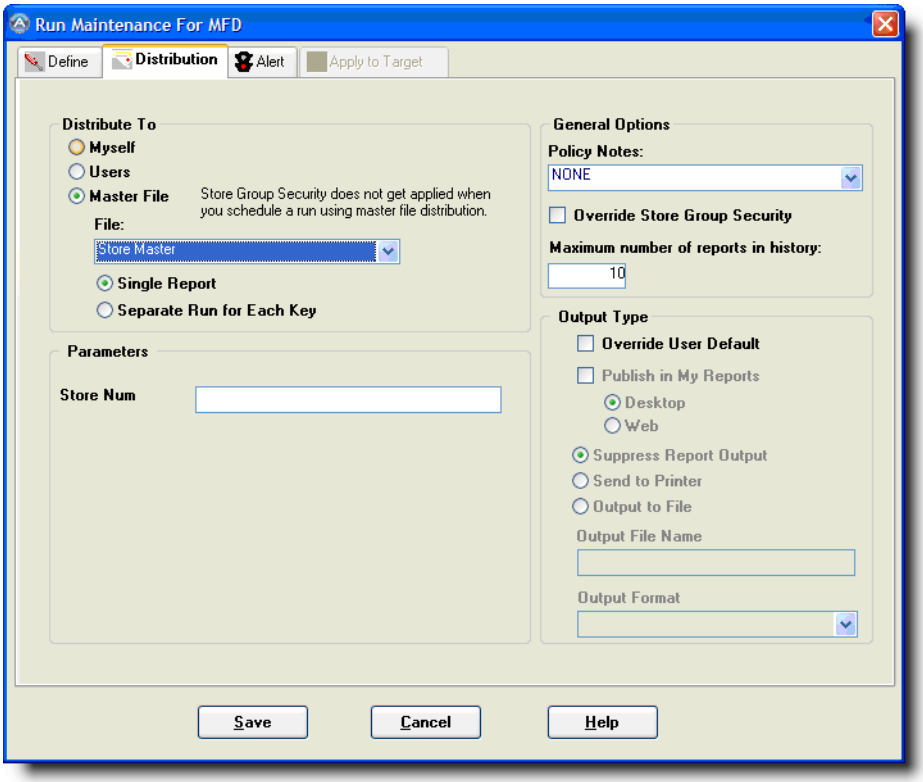


Figure 11-27: Schedule Query using MFD

a. Click the **Master File** option.

b. In the **File** area, select the master file you would like to use for distribution.

c. If available, enter desired value in **greater than X** or **multi-use** parameters as you normally would.

d. To *send the same report to each report recipient* in the master file, click the **Single Report** option at the bottom of the window. Continue to Step 4.

e. To *send a separate report* to each Store, Region, or District click the **Separate Run for Each Key** option at the bottom of the window.

f. In the new parameter area that you created (for example, Store #), click the down arrow and choose the corresponding field. For example, choose Store # for a Store Number parameter or Region # for a Region Number parameter. This will allow Store 1 to only receive information for Store 1.

4. **Save** your scheduling options.

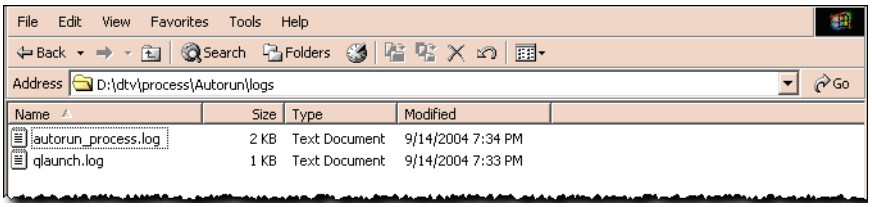
5. **Close** the Scheduling window that appears. It is not necessary to add any users to the distribution.

Validating the Auto Run Process

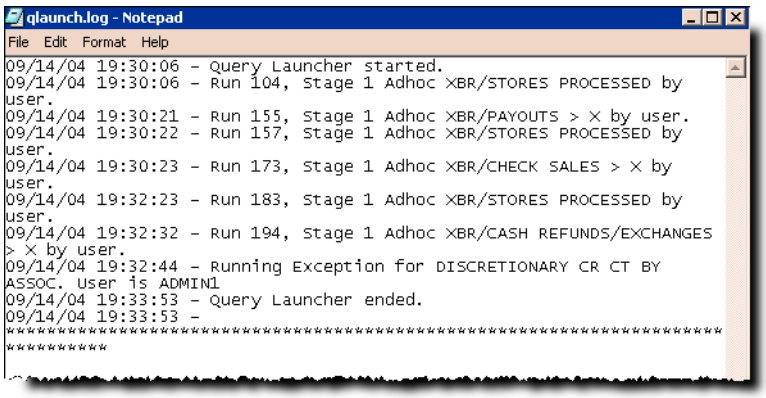
System administrators are able to determine if scheduled queries successfully ran automatically. If a user does not receive a scheduled run, the system administrator can check a log file and identify if there were any errors.

How to Review the Auto Run Log File

1. Using Windows Explorer, locate the drive where Analytics is installed on your server. Locate the dtv folder and open the following path: `dtv\process\Autorun\logs`.



Open the `dtvqlaunch.log` (query launch log). If there were any errors in the automated run, they would be identified in this file.



CHAPTER 12

Building and Modifying Queries

OVERVIEW

Analytics has a very user-friendly process for building Adhocs and modifying existing queries. Although Analytics users can build new queries, it is strongly recommended that they instead modify an existing query whenever possible. It's much less time consuming to modify an existing query than to create a brand new query.

Modifying Adhoc queries involves making a copy of an existing query by using the "Save As" command and then making changes to reflect the modification. All user levels have the access to build or modify their own queries; however, only System Administrators can copy and modify all queries.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

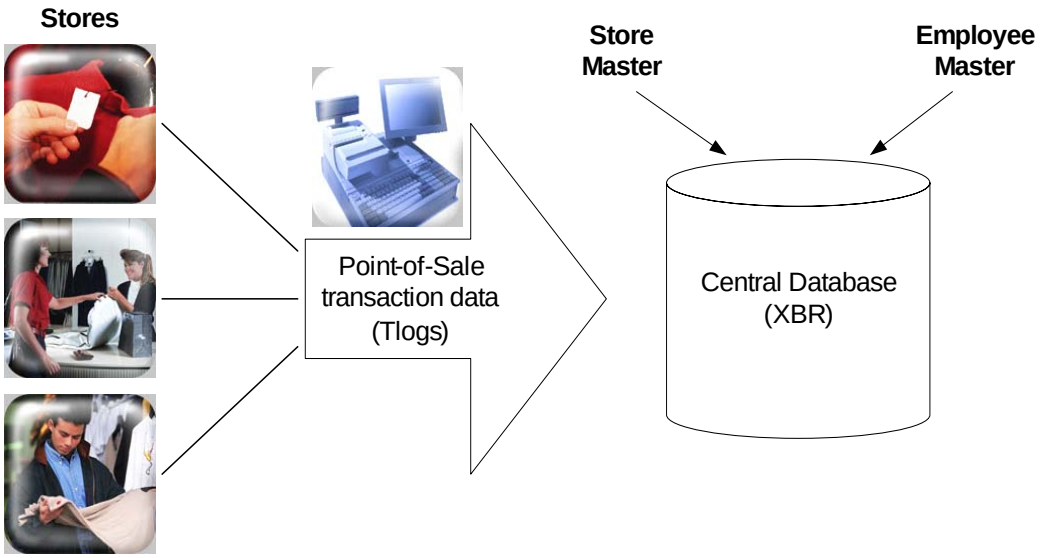
- Understanding the Flow of Data
- Understanding Data Levels and Applicable Tables
- Define all aspects of the query properties
- Identify Main and Supplemental files
- Indicate default time frames
- Add, Format and Delete fields
- Create and format mathematical calculations
- Add calculations to a subtotal row
- Create "specific criteria" to prefilter reports prior to running
- Create variable pre-filters (parameters) to use prior to retrieving data
- Create permanent filter criteria
- Identify appropriate policy notes to be used for queries

Data Flow Process

XBR Store Analytics is a window to the Point-Of-Sale (POS) activity in your stores that allows you to look for trends and exceptions in the data. Your home office collects the Transaction data from the registers at each store. Your POS system polls each store's transactions and transfers them to your home office in the format of a Transaction log (Tlog) file. A Loader program then processes and formats the data and saves it to the XBR database.

A Project Consultant works with a representative from your company to determine the risk areas and specific information that should be captured from the t-log for reporting purposes in XBR. The more information your Tlog contains, the more robust your Loss Prevention reporting can be.

Register systems are polled daily at each of the stores within your organization.



Analytics' Loader program processes POS data from the Tlogs (or reporting views are set up within a data warehouse) and organizes the data into three accessible levels (Summary, Header and Detail) for reporting purposes.

Figure 12-1: Origin of XBR Data

The data, once saved to the XBR database, is then stored in tables at one of three data levels: Summary, Header, or Detail. Queries are then built using tables that store data at each of these levels.

Level	Description
Summary	Provides **Summary** level statistics by **store, cashier** or **register**. There is only one line for each store (or cashier or register). This level does not provide transaction specific information. **Example:** Example: At store 220, there were 10 manually keyed credit card transactions totaling $500 yesterday. The database table that stores data at the summary level is: POS_STATISTICS.
Header	The **Header** level contains one summary line for each transaction. This can include: Cashier ID and Name, Transaction Date, Time and Number, Total Transaction Amount, and Tender Type There are additional indicators at this level, called flags, identifying various types of special activity associated with a transaction like employee sale. **Example:** On February 28, 2005, Cashier #91375 rang a merchandise purchase on transaction #548. This transaction that tendered for $100.00 at Register #3 at 11:30 am. The database tables that stores data at the Header level are: ■ POS_Journal_Header ■ POS_Sales_Header.
Detail	The Detail level contains multiple rows of detailed data per transaction in addition to the data available at the Header level. This data includes Account numbers, SKU, tax and tender, and can include SKU level details such as, SKU ID, SKU description, SKU quantity, line discounts for a specific SKU, and extended amounts per specific SKUs. **Example:** On the above Header level example, the first SKU on this transaction was SKU #46802, a white t-shirt, originally priced for $30.00 but with a line discount, was priced at $25.00. The second SKU on this transaction was SKU #67329, a pair of jeans, priced at $55.00. The third SKU on this transaction was a leather belt priced at $20.00. This was a Credit Card transaction on a Discover Account “6011 XXX XXX 5555”. This level would specify not only the amount tendered, but also would display split payments and cash back, if applicable. The database tables that stores data at the Header level are: ■ POS_Journal_Detail ■ POS_Sales_Detail ■ POS_Journal_Tender ■ POS_Sales_Discounts ■ POS_Sales_SKU ■ POS_Sales_Tender.

Supplemental Files

Supplemental Files are considered non-POS data that is also stored on the XBR database. Any data stored on the XBR database can be used in report builds and helps to make the reports more robust for the end-user. Supplemental files supply supportive data to the database that can also be used in XBR reports. This data is in addition to the POS data downloading from the stores daily. This information is an important component of data organization because it helps identify trends more readily by providing extra data not typical of the POS system, such as Employee Name, Store Manager Name, etc. For example: *an XBR user may not notice employee # 93687 is an issue until the name "Jane Smith" is visible in the query results numerous times.*

The common master files include the Store Master, Employee Master and Register Master. However, modifications exist to enable other master files to be added to the database as well, such as Region Master and District Master.

Supplemental File	Description
Store Master	Provides store name, city, state, store manager name, and store phone number.
Employee Master	Provides employee name, employee number, social security number, and job code.
Register Master	Provides register number, type, location and group, and store number, etc.
SKU Master	Provides information about each SKU (i.e. SKU number, Description, UPC and size).
Video Master	Provides information for video linking (i.e. - video vendor, IP address, and camera)

New Query Window or Update Query Window

The first step to creating a new query or modifying an existing query is to access the query maintenance window.

- To create a new query, click the **New** button while in the Query List window.
- To modify a query, select the query name and click the **Open** button.

There are six standard tabs that are used to either build or modify queries.

Tab	Description
Define	Identifies the properties of the query.
Files	Indicates which tables are being used to build the query.
Fields	Allows users to add, format and delete fields and calculations used in the query.
Totals	Allows users to specify subtotal data.
Criteria	Used to create prefilter, permanent filters and filter variables (parameters).
Policy Note	Allows users to specify policies or guidelines that their users should adhere to in various risk areas of their business.

Define Query Properties

The Define tab identifies the properties of a query. General information such as report title, style, security access, and descriptive notes are entered and identified on this tab.

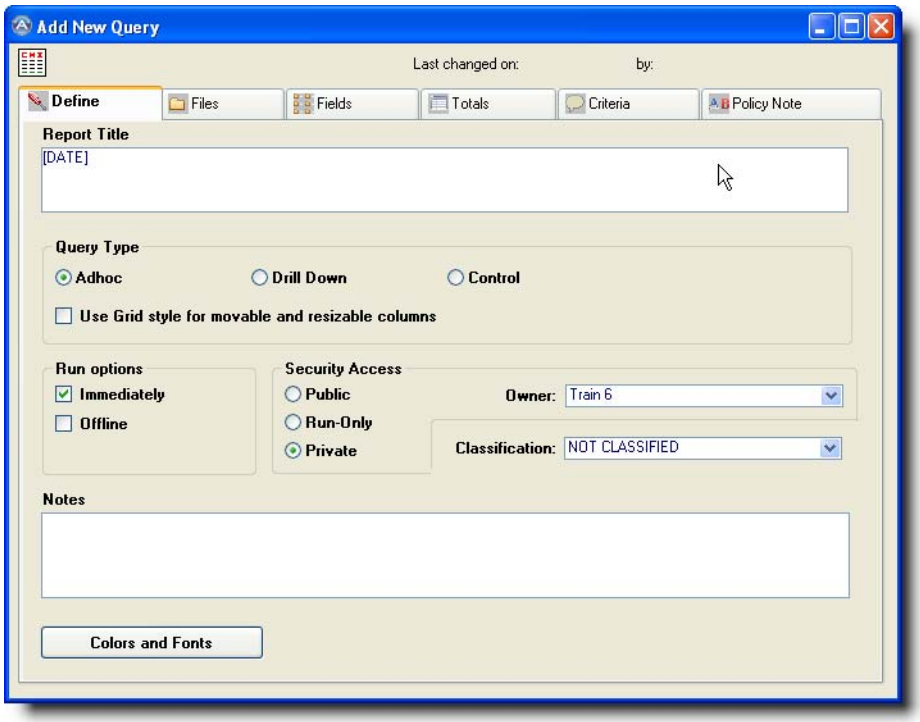


Figure 12-2: Add New Query - Define Tab

Table 12-1: *Define Tab Properties*

Property	Description
Report Title	**Report Title** is the title of the report that is displayed at the top of a report once data has been retrieved. It is not the Query Name, which is listed in the Queries window and is limited to 32 characters. This title can be temporarily changed after the query has run by accessing Design Mode or selecting Report Options as learned in the Fundamental training guide. Please refer to the Fundamental Training Guide for further assistance using Design Mode and Report Options. If the function name **[DATE]** is used in the title, then date range used to retrieve the data will be displayed as part of the report title. For example, if a Credit Card Detail query is run for Calendar Month June, then the title at the top of the report might read, "Credit Card Activity 6/1/20XX - 6/30/20XX. By default, **[DATE]** is placed in the title whenever a new Adhoc is created. In addition to the title, all query results will show the current date, time, and page numbers.

Table 12-1: *Define Tab Properties (continued)*

Property	Description
Query Type	**Query Type** allows users to select Adhoc for a new query being built or to convert an Adhoc to a Drill Down, Decile or Control.
Grid Style	**Grid Style** is used to move or resize columns. When Grid Style is selected, XBR inserts a border into the report, separating columns and rows; it creates a view similar to that of a spreadsheet. Users can use those borders to easily move and resize columns. Be aware that Report titles can become truncated into one column when using this style.
Run Options	
■ **Immediate**	**Immediate** will run the query right on your screen and you will have to wait for the results to display.
■ **Offline**	**Offline** will run the query at a pre-defined process that was set up during installation. The results will be placed on the My Report window.
Security Access	The **Security Access** determines the level of access the Users have to a query.
■ **Public Access**	All Users can run the query as well as open the query to make permanent changes. For example, all Users can add, format and delete fields, create calculations, make copies of the queries, etc. in addition to running the query.
■ **Run-Only**	All Users can run the query but do not have access to modifying the query unless they are the System Administrator or the owner of the query.
■ **Private**	The query is only visible to the System Administrator and the Query Owner. They are the only users that can run and modify the query.
Classifications	**Classifications** are used to organize queries. They are similar to folders in a Windows environment. Users need to select an appropriate classification for their queries.
Notes	The **Notes** field allows users to add descriptive notes and other helpful information about the query data. These notes can be viewed in the Query List window when the query name is selected.
Colors and Fonts	The **Colors and Fonts** button allows users to set up text attributes and color options that will be the default for this query. Any changes made here will be applied to all fields that already exist in the query, including those that you have made specific color/font changes to.

Table 12-1: *Define Tab Properties (continued)*

Property	Description
Test Query	The **Test Query** button only appears when Adhoc queries are being converted to Drill Downs, Deciles or Controls. The button allows users to test the query after the query type is changed.

How to Define A New Query

1. Click in the **Report Title** text box. Press the "Home" key or click at the beginning of the date function to keep the [DATE] function as part of the report title (optional). Type in a report title that will be displayed at the top of a report.
2. If the query is new, then click the **Adhoc** radio button.
   a. If the query is not new, then click the applicable query type radio button (either **Drill Down**, **Decile** or **Control**).
   b. Click the **Test Query** button to ensure that the query runs without any errors.
3. Select either **Immediate** or **Offline**.
4. Select one of the following three options for the **Security Access**:

   Public All users can run and modify the query.

   Run-only Analysts can run the query; System Administrators and Query Owners can run and modify the query.

   Private Only System Administrators and Query Owners can run and modify the query.
5. Click the **Owner** down arrow and select the owner of this query.
6. Click the **Classification** down arrow and select the appropriate classification to store the query in.
7. Click the **Notes** text box and type information that will tell XBR Users the purpose of running the query.
8. Click the **Colors and Fonts** button to determine display color and font attributes if different from the application defaults.
9. The **Test Query** button is only applicable when converting an Adhoc query into a Drill Down or a Control. The button allows users to test the query after the query type is changed

IDENTIFY MAIN AND SUPPLEMENTAL FILES

Files

A query is built by selecting one main file and up to five supplemental files on the **Files** tab. It is recommended to use a point-of-sale (POS) file as the main file whenever possible. There are restrictions on using certain tables together in one query. For example, users cannot use detail tables and summary tables in the same query. Analytics can accommodate the need for detail and summary level information by providing links between the two types of queries. POS data is stored in table names beginning with "POS", like POS_STATISTICS. Non-POS data is stored in supplemental tables, like Master files. Common supplemental files include the Store Master, Employee Master, and SKU Master.

Supplemental files are used to support data retrieved from the Main file. For example, some users capture cashier names in the Employee Master but not in the POS Statistics table. The Employee Master can be used as a supplemental file in order to add the Employee Name to the query results.

TIP

Refer to "Data Flow Process" on page 207 for information on data flow and database tables.

Date Selection

A default **Date Field** and **Date Name** are also identified on this tab. The Date Selection area allows users to limit the range of dates returned by the query.

Date Field: The date field options are built from the main file and are used to qualify the data retrieved from the query (frequently there is only one date field, such as TRANSACTION DATE or NONE). If **Transaction Date** is selected, then XBR will recognize a date range in the Run window. If **None** is selected, then the query will retrieve data without using a specific date range.

Date Name: The date name is the default time frame that will reflect data when a query is run, for example, Last Week or Yesterday.

How to Select Files and Identify Date Fields

1. In the Add New Query window, select the **Files** tab.

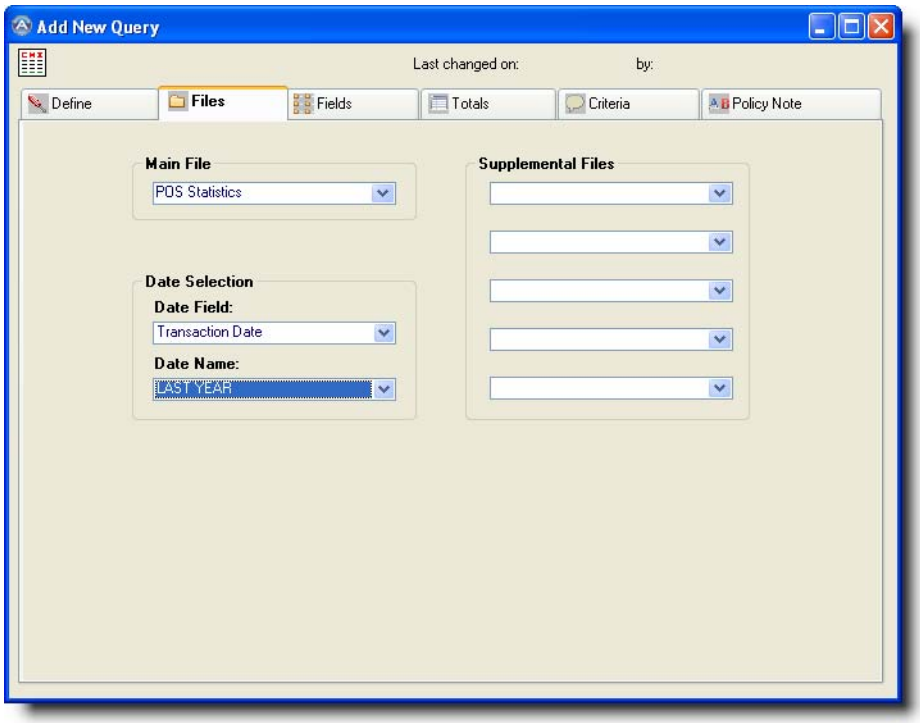


Figure 12-3: Add New Query - Files Tab

2. Click the **Main File** down arrow and select the file (table) that will be used to build this query.

> **TIP** *A point-of-sale (POS) table should be selected as the main file whenever possible.*

3. **[OPTIONAL]** Click the **Supplemental File** down arrow and select a file. Only a maximum of five (5) supplemental files can be used to support the Main file in each query.

> **TIP** *Detail, Header, and Summary Level tables can not be used in the same query.*

4. Click the **Date Field** down arrow and select a date field such as Transaction Date or None.

5. Click the **Date Name** down arrow and select a default date name. This date name will appear as a default in the Run window.

Adding, Formatting, and Deleting Fields

Fields can be added to queries from both main and supplemental files. When fields are selected from files, the formatting properties are already assigned based on how the field was identified when the table was created. These attributes were assigned to this field in the background when the Table and Field were added to the database. For example, an Employee ID number might be center aligned within a column and displayed as a general number without commas, percentages or currency symbols. Although field attributes are already assigned, they can be modified for each individual query when adding the field to that query.

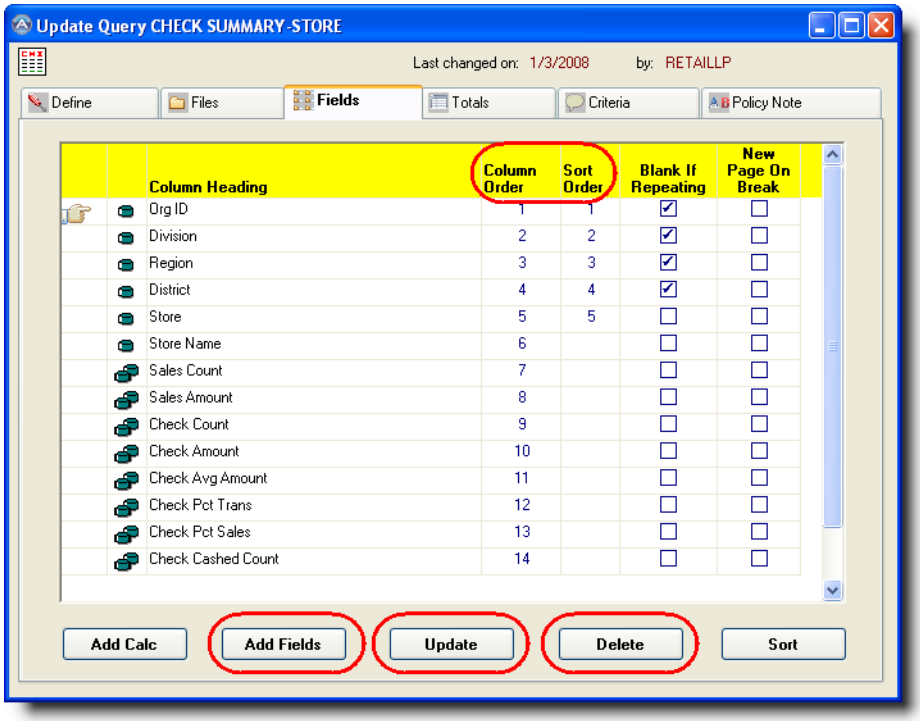


Figure 12-4: Update Query - Fields Tab

Once fields have been added to a query, users can then determine column order and sort order. Column order defines the order of which column displays first in a report. The sort order determines whether certain data will be displayed in ascending or descending order before other columns in the report. For example, if a query is sorted by Store Number first and then Cashier Number, when the report runs, store numbers will be displayed in sequential order and within each store number, cashier numbers will be displayed in sequential order.

How to Add a Field

1. In the **Update Query** or **Add New Query** window, click the **Fields** tab (Figure 12-4).

> TIP
> *It is recommended to use as many fields as possible from the POS file rather than the supplemental files.*

2. Click the **Add Fields** button.

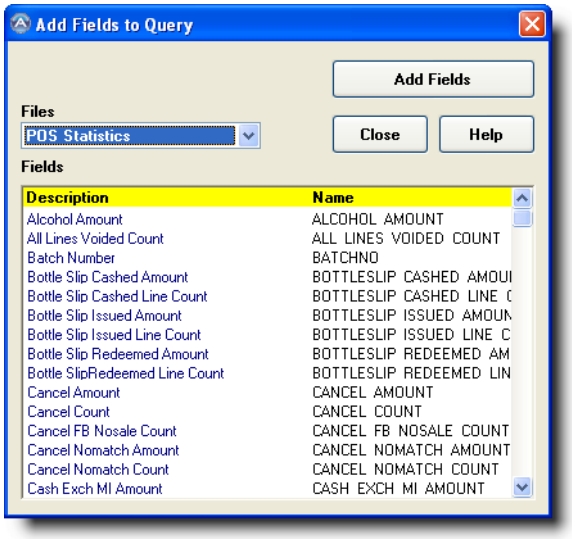


Figure 12-5: Add Fields

3. Click the **Files** down arrow and select the table that the fields are located in.
4. Scroll through the list of fields and select the field to be added to the query. Use the **[Ctrl]** or **[Shift]** keys to select multiple required fields prior to clicking the **Add Field** button.
5. Click the **Add Fields** button.
6. Click the **Close** button once all necessary fields have been added.

How to Delete a Field

1. In the **Update Query** or **Add New Query** window, click the **Fields** tab.
2. Click the **Column Order** number that represents the field. When a **Column Order** number is selected, the hand icon point to the selected field.
3. Click the **Delete** button.

FORMATTING A FIELD

Fields have predefined attributes already assigned to them. However, field formats can be modified in the Maintain Adhoc Query Fields window. Select the field to modify on the **Fields** tab, and then click the **Update** button to access this window.

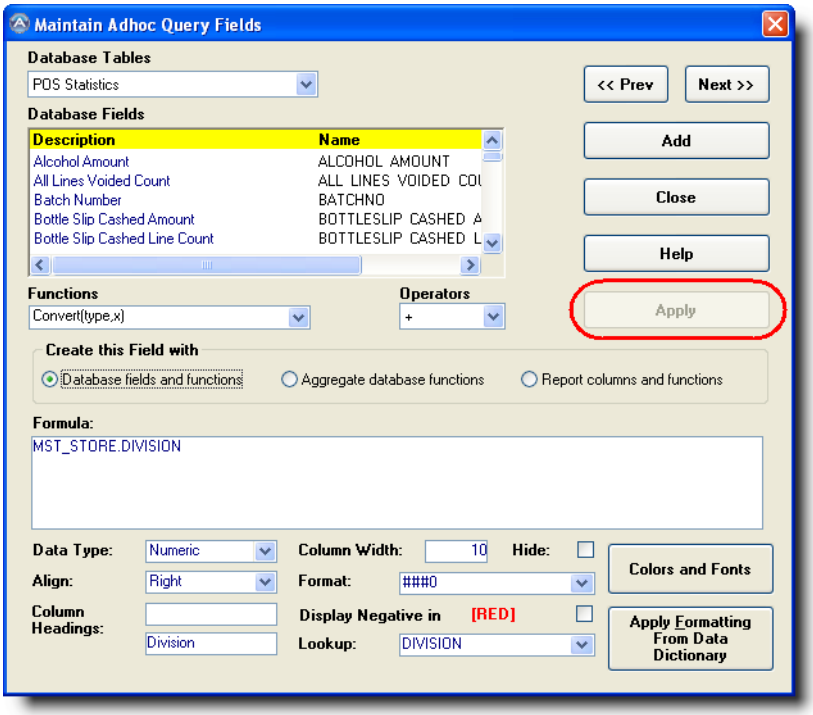


Figure 12-6: Maintain Adhoc Query Field

The following table lists and describes the parameters of the Maintain Adhoc Query Field window (Figure 12-6):

Table 12-2: *Maintain Adhoc Query Field Parameters*

Parameter	Description
Database Tables	The **Database Tables** drop-down list allows users to select the appropriate table that contains desired fields. For example, Employee Name is located in the Employee Master table. Therefore, in order to modify the attributes of this field, the Employee Master table would need to be selected to allow access to the field.
Database Fields	The **Database Fields** that are listed are reflective of the selected **Database Table**. In the figure above, the POS-Statistics table is selected; therefore the fields listed are from the POS-Statistics table.

Table 12-2: *Maintain Adhoc Query Field Parameters (continued)*

Parameter	Description
Functions	The **Functions** section allows users to select mathematical functions that will be applied to a field in the **Formula** section. For example, click the Function down arrow and select SUM to add the SUM function to total the field.
Operators	The Operators area provides a drop down list of mathematical operators that are used in expressions (For example: + - * and /).
Create this Field with	The **Create this Field with** section updates one of the three radio buttons automatically depending on the function, if any, that is being applied to the field. ■ **Database fields and functions** is automatically selected when a field is represented as a non-aggregate field. ■ **Aggregate database functions** is automatically selected when there is a function or mathematical expression represented in the field, making it an aggregate field. ■ **Report columns and functions** is automatically selected when a report function is applied to a field, such as Transaction Day, which returns the weekday name in the Query results.
Formula	The **Formula** text box is where the selected Table and Field name appear. Function expressions can also be created and will display in this box.
Data Type	The **Data Type** area defines the type of field that is being formatted. This criteria is established in the initial database and shouldn't be modified. Modifications can cause errors to occur when running queries. The four data types are Numeric, Character, Date and Time. ■ **Numeric** data types typically identify values. ■ **Character** data types identify text and digits that are not used as values like phone numbers and social security numbers. ■ **Date** data types refer to calendar date fields like transaction date. ■ **Time** data types refer to time of day fields like transaction time.
Align	**Align** is used to indicate the field alignment within the column width. Alignment selections include Left, Center, or Right.

Table 12-2: *Maintain Adhoc Query Field Parameters (continued)*

Parameter	Description
Column Headings	**Column Headings** allows users to create the text that will identify each of the columns in the report. There are two text boxes available to give a wrap effect to column headings. If long column headings are not broken into two rows, then the column width needs to be wide enough to display the heading.
Column Width	**Column Width** allows users to indicate an adequate column width so that all of the data can be displayed.
Format	The Format drop down list provides formatting options like currency, percent, whole values, and values with decimal places.
Display Negatives in Red	The **Display Negatives in Red** check box will display negative values in the red text color if checked. This can be helpful when a report includes both sale and refund activity
Lookup	The **Lookup** drop down provides a list of Lookup tables that can be applied to a field. For example, Transaction Types will display values in the report instead of text until the Lookup table, Trans Types, is applied to it. Once this table is applied, then the actual text that represents the value will display instead. For example, the text "Cancel" represents the value "002".
Hide	The **Hide** check box is selected to hide a column in the report. For example, if the District field is added as a field to the query but is hidden, then it allows users to prefilter on that field even though the data for that field will not display in the report.
Colors and Fonts	The **Colors and Fonts** button is used to change the default report colors to custom color and font type choices.
Apply Formatting From Data Dictionary	The **Apply Formatting from Data Dictionary** is used to apply the default formatting of a selected field to the active field displayed in the **Formula** text box.
Previous	The **Previous** button allows users to return to previous fields available in the query without closing the **Maintain Adhoc Query Fields** window.
Next	The **Next** button allows users to proceed to the next field in the query without closing the **Maintain Adhoc Query Fields** window.

Table 12-2: *Maintain Adhoc Query Field Parameters (continued)*

Parameter	Description
Close	The **Close** button is used to close the **Maintain Adhoc Query Fields** window once field attributes have been specified. If the **Apply** button wasn't clicked prior to this button, then the user will be prompted to save changes.
Help	The **Help** button is used to access system help. If clicked from this window, then help will provide assistance for this specific window once it has launched.
Apply	The **Apply** button is used to apply changes immediately prior to closing out of this window.

How to Format a Field

1. fcIn the **Update Query** or **Add New Query** window, click the Fields tab (Figure 12-4 on page 216).
2. Click a **Column Order** number that represents the field. The hand icon will point to the selected field.
3. Click the **Update** button. The Maintain Adhoc Query Fields window is displayed (Figure 12-6 on page 218)
4. Make appropriate selections by using down arrows when applicable and/or typing text into available text boxes.
5. Click the **Close** button. Users will be prompted to save any new changes.

> You can click the **Apply** button prior to closing to avoid the **Save** prompt.

Pointing a Field to a Lookup

Lookups allow fields that would normally display as a value to display as text instead. For instance, the Division field is typically a "numeric" field, meaning that a value like "1" or "2" displays representing company divisions. However, if the Division field is pointing to a Lookup table, then it would allow the field to display as text like "Northeast" or "Southwest" instead of data value.

How to Point a Field to a Lookup

1. In the **Update Query** or **Add New Query** window, click the **Fields** tab.
2. Click the **Column Order** number that represents the field. The hand icon will point to the selected field.
3. Click the **Update** button.
4. Select the appropriate table name from the **Lookup** drop-down list near the bottom of the window.
5. Click the **Close** button. Users will be prompted to save any new changes.

> You can click the **Apply** button prior to closing to avoid the **Save** prompt.

CREATING CALCULATIONS

Calculations are mathematical equations that are added to queries. Popular equations include sums, averages, percent to sales, and percent to transactions. They are created when an existing field is summed together for a given time frame, making it an aggregate field and also when fields are used together in a calculation to create a new field. It is common to create a calculation when a particular field doesn't exist in a table, for example "average sales".

Calculations that are created and added to a query as an additional field require additional steps such as creating a column name and identifying attributes accordingly, in addition to setting up the mathematical equation. Calculated (aggregate) fields are displayed on the Fields tab with a double cylinder icon instead of a single cylinder icon next to the field name.

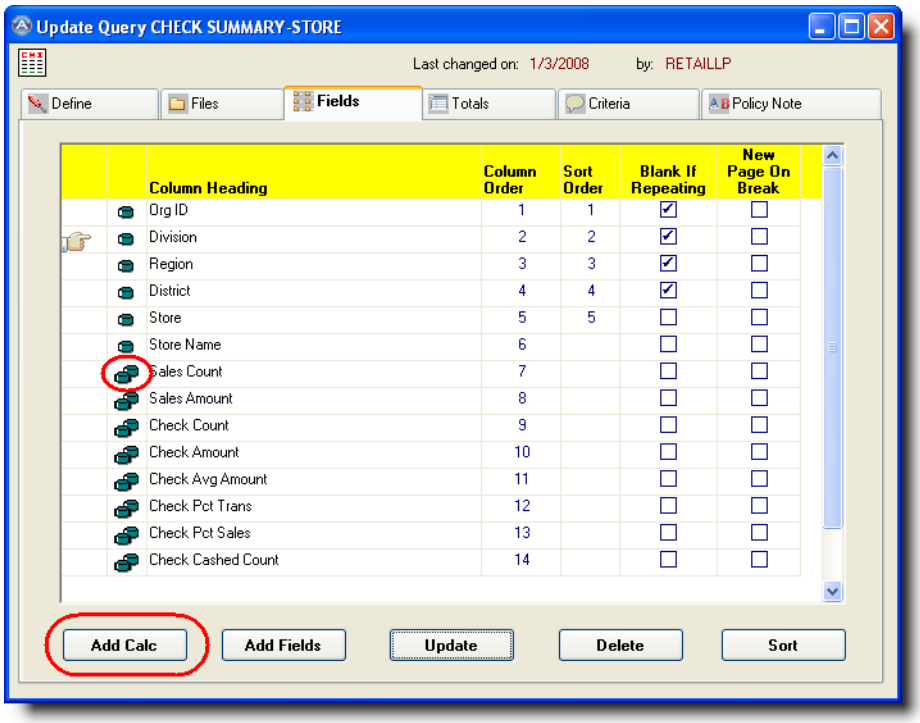


Figure 12-7: Update Query - Add Calc

How to Create an Aggregate Field

1. Click the **Fields** tab on the **Update Query** or **Add New Query** window.
2. Select the **Column Order** number that represents the field to be summed.
3. Click the **Update** button.
4. Click the **Function** down arrow and select SUM to add the SUM function to this field. In the Formula field, replace the "x" with the field name being summed by either deleting the X and moving the parenthesis or selecting the field name and using cut and paste. Verify that the field name is now enclosed in a set of parenthesis.

   The Sum function can also be added manually by typing SUM at the beginning of the field name and then enclosing the field name in a set of parenthesis.

> **TIP** *Right click a highlighted field in the **Formula** text box and a shortcut menu will appear allowing users to select: Sum, Count, Max, Avg, or Min.*

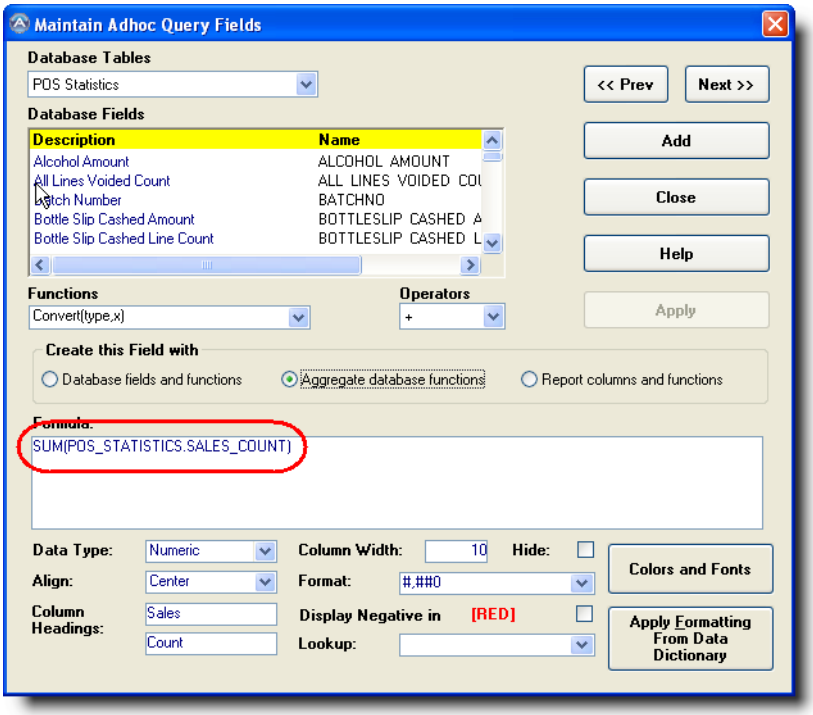


Figure 12-8: Create Aggregate Field

5. Click the **Apply** button.
6. Click the **Close** button. In the **Fields** tab, a double cylinder icon is now displayed next to the field name indicating that this field is now an aggregate field (Figure 12-9).

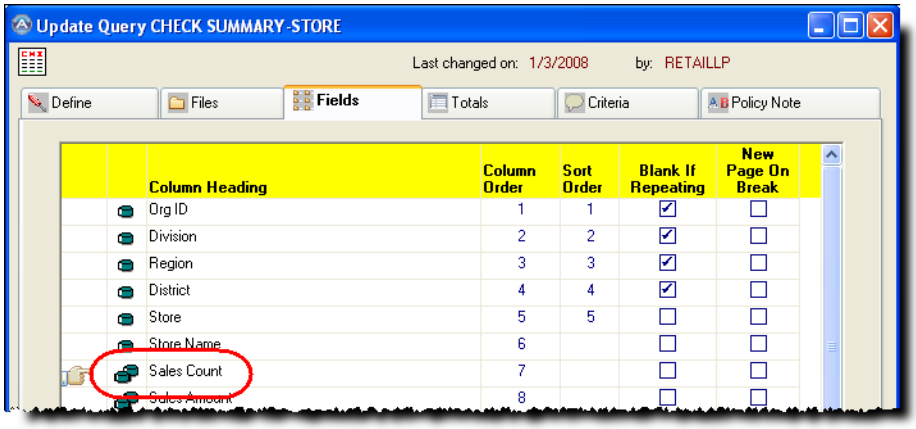


Figure 12-9: Calculated Field

How to Create a Calculation

1. Click the **Fields** tab on the **Update Query** or **Add New Query** window.
2. Click the **Add Calc** button.
3. Click the **Database Tables** down arrow and select the table (file) that contains the fields being used in the calculation.
4. Scroll through the list of fields in the **Database Fields** list, and double click on the appropriate field(s) required in the calculation. The field(s) will appear in the Formula text box.

> **TIP** *Right click a highlighted field in the **Formula** text box and a shortcut menu will appear allowing users to select: Sum, Count, Max, Avg, or Min.*

5. Add the appropriate functions and/or operators to calculate the correct mathematical expression. The function and/or operator can be typed or the **Functions** or **Operators** down arrow can be used to make specific selections.

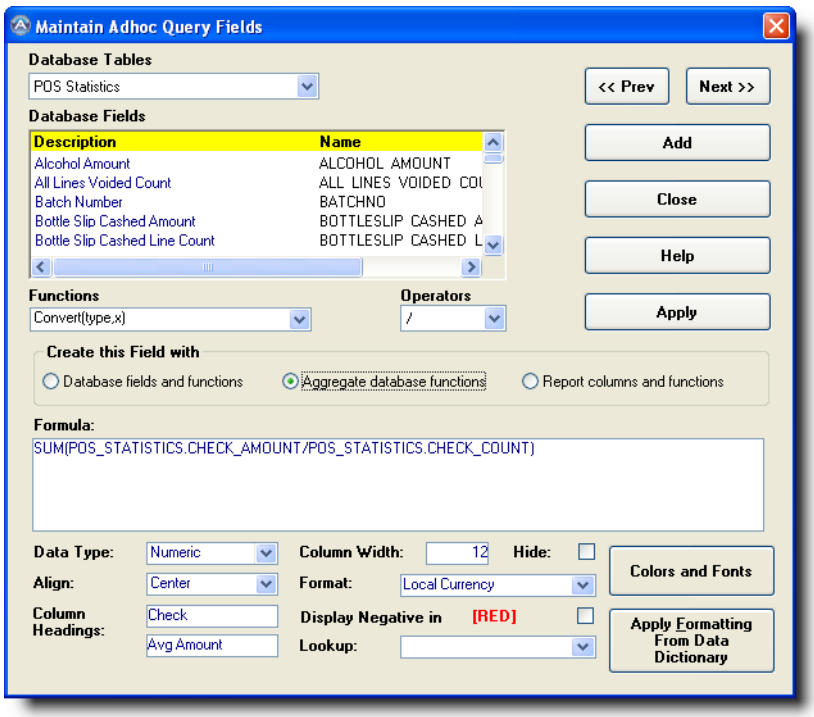


Figure 12-10: Calculated Field

6. Click the **Data Type** down arrow and select numeric for a calculation.
7. Click the **Alignment** down arrow and select either Center, Left or Right.
8. Use the **Column Heading** boxes to type a header name that will appear at the top of the report, identifying a column of data.
9. In the **Column Width** box, type a desired column width.
10. Click the **Format** down arrow and select an appropriate format. Remember to select the Percent format in creating a % calculation.
11. Click the **Apply** button when done making all selections.
12. Click the **Close** button.

Law of Operators

Operator:	Used For:	Example
+	Addition	Credit Card Dollars + Cash Dollars
-	Subtraction	Sales Dollars - Credit Card Dollars
*	Multiplication	Quantity * 100
/	Division	Sales Dollars / Sales Units

If there is a combination of operators used in a mathematical equation, then Multiplication and Division will be calculated first, followed by Addition and Subtraction calculations. If there are multiple multiplication, division, addition and subtraction operators within the same equation, then the calculations will be performed in the order that they occur in the equation within the law of operators.

Parentheses are used to override the law of operators. If an equation requires addition to be calculated prior to the division, then the addition portion of the equation needs to be surrounded by a set of parentheses. For example:

Return & Exchange Dollars / (Return & Exchange Dollars- Cash Refund Dollars)

500 / (500 - 300) = 2.5

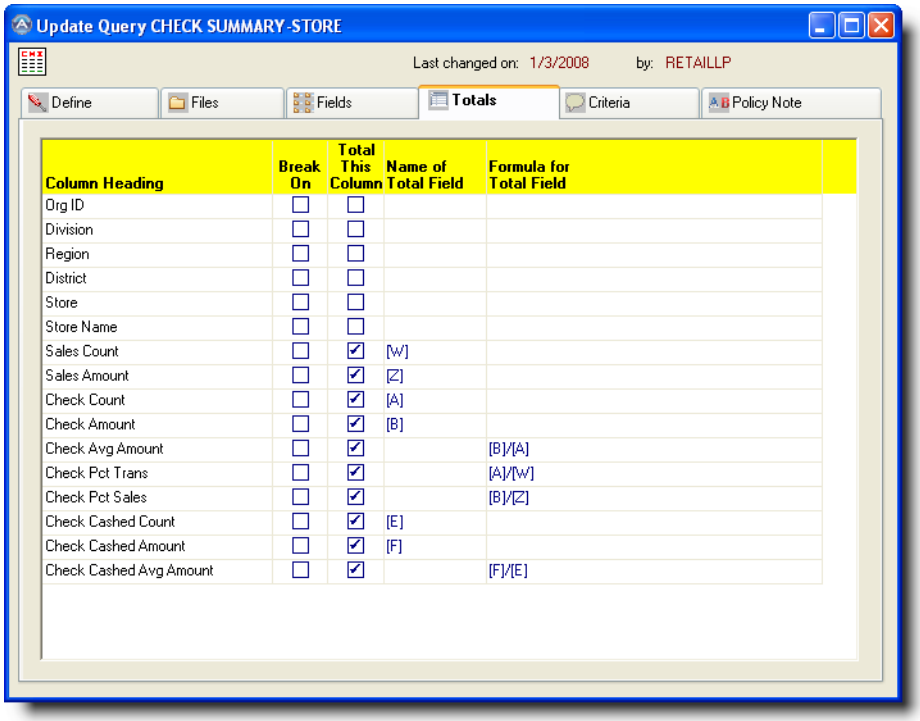
*The answer would have been -**299** without the parentheses.*

Common Functions

Function:	Function Example	Explanation
ABS	ABS(-4) = returns 4	Changes negative value to a positive value
AVG	AVG(tender_amount)	Returns the average tender amount
COUNT	Count(emp_ID)	Returns the number of non-null employee ID rows
DAYNAME	DayName(2008-09-01)	Returns the Day Name for 09-01-2008, "Wednesday"
IF	If(tender_total < 0, "invest", "OK")	If tender is less than 0, the answer is "invest" If tender is not less than 0, the answer is “OK”
MAX	Max(4,7)	Returns the maximum value from the set (7 in this case)
MIN	Min(4,7)	Returns the minimum value from the set (4 in this case)
SUM	Sum(tender_amount)	Returns the sum of tender amounts for each store, cashier
TODAY	Today()	Returns the current system date

CREATING SUBTOTALS

The **Totals** tab is used to set up subtotal rows. Subtotal rows are used to sum up columns of information for desired non-aggregate fields such as "store". For example, a subtotal for cashier activity can appear for each store, allowing subtotals to display at the store level. The following table describes each of the elements available on this tab:



Column Heading	Break On	Total This Column	Name of Total Field	Formula for Total Field
Org ID	☐	☐		
Division	☐	☐		
Region	☐	☐		
District	☐	☐		
Store	☐	☐		
Store Name	☐	☐		
Sales Count	☐	☑	[W]	
Sales Amount	☐	☑	[Z]	
Check Count	☐	☑	[A]	
Check Amount	☐	☑	[B]	
Check Avg Amount	☐	☑		[B]/[A]
Check Pct Trans	☐	☑		[A]/[W]
Check Pct Sales	☐	☑		[B]/[Z]
Check Cashed Count	☐	☑	[E]	
Check Cashed Amount	☐	☑	[F]	
Check Cashed Avg Amount	☐	☑		[F]/[E]

Figure 12-11: Update Query - Totals Tab

Break On	Subtotals are calculated whenever the value in this field changes (breaks). For example, selecting this option for STORE would cause subtotals to be created for each change in Store Number.
Total this Column	Needs to be selected in order to sum up that field. For example, if the Sales Total field is the field being summed in the subtotal row, the Sales Total field needs to be selected in this column.
Name of Total Field	It is necessary to name fields that are being used in calculations other than the SUM function. It is recommended that the names are kept simple like using the letters in the alphabet as shown below. Each field needs its own unique name and the name needs to be surrounded by straight brackets.
Formula for Total Field	It is necessary to duplicate the formula for created calculations, if they are not standard SUM functions in order to see the correct results for calculated fields at the summary level. Otherwise, these columns will be summed instead of calculated.

How to Create a Subtotal for a Summed Field

1. Click the **Totals** tab on the **Update Query** or **Add New Query** window (Figure 12-11).
2. Click applicable "**Break On**" check boxes to show subtotals at each change for these fields.
3. Click applicable "**Total This Column**" check boxes. The fields that are checked in this column will display a subtotal for that field at each break that has been checked.
4. Name of **Total Field** and **Formula for Total Field** are not required in order to show summed subtotals at each break.

How to Create a Subtotal for a Calculated Field (other than SUM)

1. In the **Update Query** or **Add New Query** window, click the **Totals** tab (Figure 12-11).
2. Check the applicable **Break On** check boxes to show subtotals at each change for an identified field.
3. Check the applicable **Total This Column** check boxes. The fields that are checked in this column will display a calculated subtotal for that field at each break that has been checked.
4. Type a name to represent the field that is being used in a calculation in the **Name of Total Field** box. The name must be typed within a set of straight brackets ([])without any spaces.

   We recommend keeping field names simple by using the letters of the alphabet. However, other text names can be substituted.

   In the following example: Average Sales Dollars = Sales Dollars / Sales Units:

   Sales Dollars has the field name **[A]** in this column

   Sales Units has the field name **[B]** in this column

   TIP *To display a negative value as a positive value, use the ABS (Absolute Value) function. This is particularly helpful when reviewing percentages of refund activity to sales activity.*

5. In the **Formula for Total Field** column, type the formula that needs to be calculated in the subtotal row.

   In the following example, the Average Sales Dollars formula would be:

   [A] / [B]

   [A] represents Sales Dollars

   [B] represents Sales Units

SPECIFYING CRITERIA

The **Criteria** tab is used to set up filter options before running the query thus limiting the data retrieved. The various filter options include prefiltering using non-aggregate field criteria, prefiltering by creating parameters (variables) and permanent filters created using field or aggregate criteria built into the query. For example, if Store Number is selected as a prefilter field, then Users can retrieve data for specific store numbers instead of the entire organization prior to running the query.

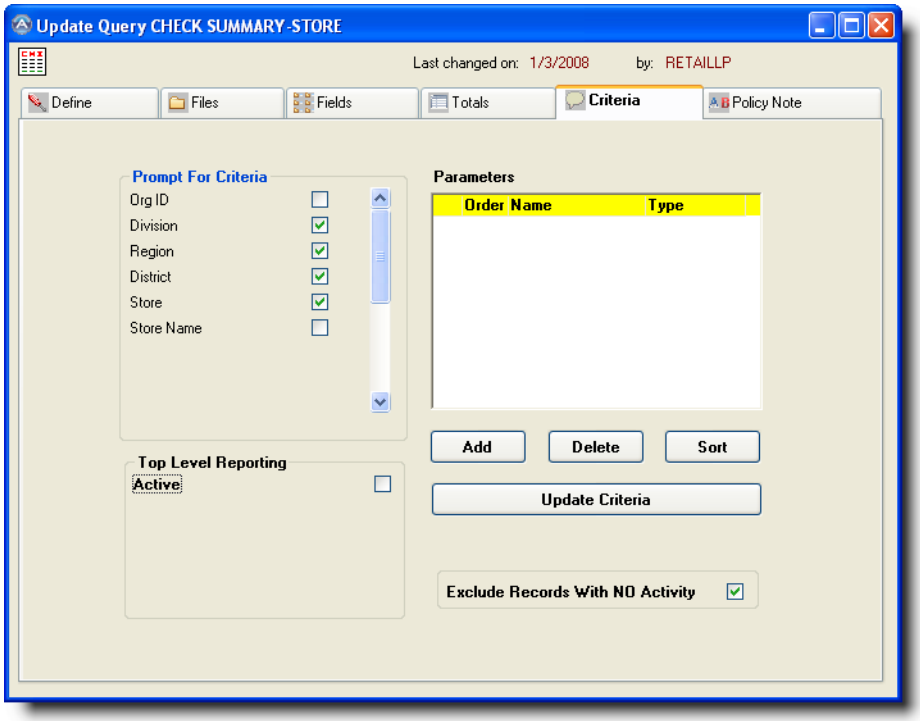


Figure 12-12: Update Query - Criteria Tab

The following table describes the functions on the **Criteria** tab:

Prompt for Criteria	Fields that are listed are non-aggregate fields that are used in the query. When a check box is selected for a listed field, then that field will appear in the "Specify Criteria" section of the Run window as a prefilter option. If a field is pointing to a Lookup table, then the field will appear as a drop down list in the run window when checked for "Prompt for Criteria".

Parameters	Parameters are created by using the Add button to create a parameter name and then by using the Update Criteria button to set up the parameter expression. Parameters allow users to indicate variables in the Run window as a method of prefiltering queries. For example, in a refund parameter, the user can type in a refund value and run the query and then change the value the next time the query is run.
Permanent Filters	Permanent filters are created by using the Update Criteria button. The following are 2 examples of permanent criteria that can be built into a query: Region = 'Northeast' When the query is run, it will only return results for the Northeast region. Refunds < -50 When the query is run, it will only return data for refunds greater than $50.00 and ignores refunds of $49.99 or less.
Top Level Reporting	Check the check box to activate this option for the run window. Top level reporting allows users to run reports for a specified level of data.
Exclude Records with No Activity	Check the check box to prevent activity from displaying in the report if all of the field data is equal to zero.

How to Create a Permanent Filter

1. Click the **Criteria** tab on the **Update Query** window or **Add New Query** window (Figure 12-12).

> **Field Criteria Tab:** Use this tab to create filters for non-aggregate fields (fields that are not calculated).
>
> **Aggregate Criteria Tab:** Use this tab to create filters for aggregate fields (fields that are calculated).

2. Click the **Update Criteria** button.

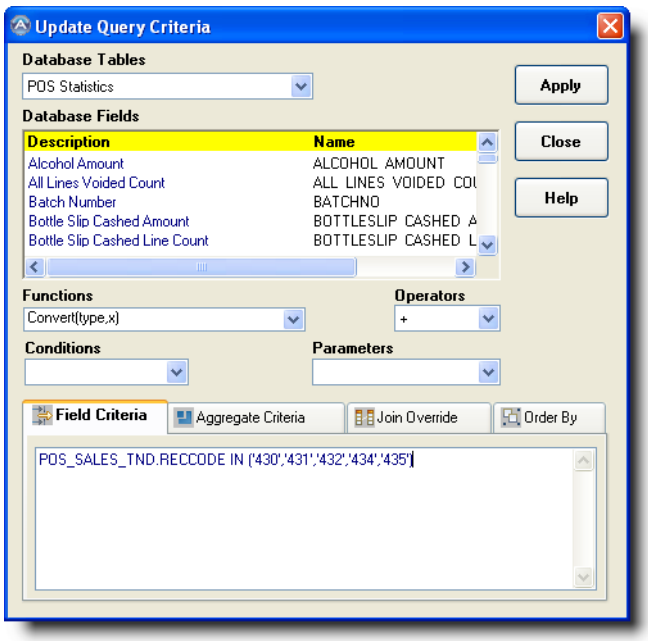


Figure 12-13: Update Criteria

3. Click the **Database Tables** down arrow and select the appropriate table that contains the fields to filter on.
4. Double click the field name that is being used for the filter.
5. Continue to set up the mathematical expression for the filter by typing or selecting an operator (>, <, +, -, *, /, etc).
6. Type in the necessary criteria. For example, if the query is meant to only display specific Rec Codes, then the filter expression might read:

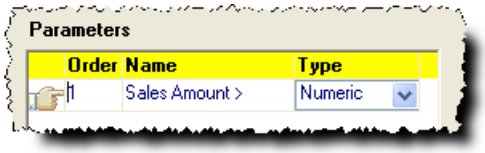
   POS_Sales_TND.RECCODE IN ('430','431','432',434','435')

> **TIP** *If the criteria is NOT a Data Value, then it needs to be in a set of single quotation marks (' ').*

7. Click the **Apply** button.
8. Click the **Close** button.

How to Create a Parameter

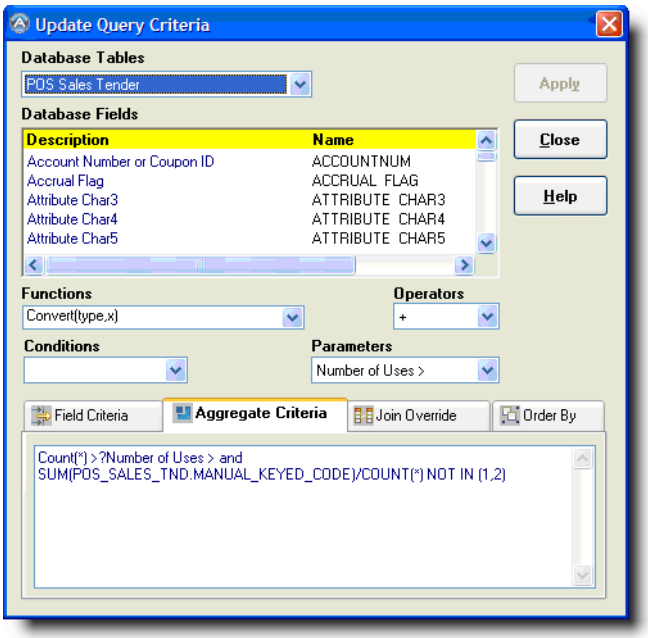
1. Click the **Criteria** tab on the **Update Query** or **Add New Query** window (Figure 12-12).
2. Click the **Add** button.
3. In the **Name** text box, type a parameter name (see right). For example, “Sales Amount >”. This is the name that will appear in the parameter section of the Run window.



4. Click the **Type** down arrow and select Character, Numeric, Date or Time.
5. Click the **Update Criteria** button.
6. Click either the **Field Criteria** tab or the **Aggregate Criteria** tab.

> Aggregate fields need to be summed (or applicable calculation) within the filter expression on the aggregate tab.

7. Click the **Database Tables** down arrow and select the appropriate table that contains the field that will be used to identify the parameter.
8. Double click on the field name that is being used for the parameter. For example, the Net Sales Total field would be used to determine “Sales Total >”.
9. Continue to set up the mathematical expression for the parameter by typing or selecting an operator (>, <,+, -, *, /, etc).
10. Click the **Parameters** down arrow and select the parameter name that was previously created. It will appear in the criteria box with a preceding question mark (?).
11. Click the **Apply** button.
12. Click the **Close** button.



Policy Notes

Policy Notes can be used as guidelines for policies and procedures. Once they are created through the Administration menu, they can then be attached to queries via the Policy Notes tab. For example, the Notes remind users of a specific store policy such as refunds and the action steps to be taken when exceptions arise.

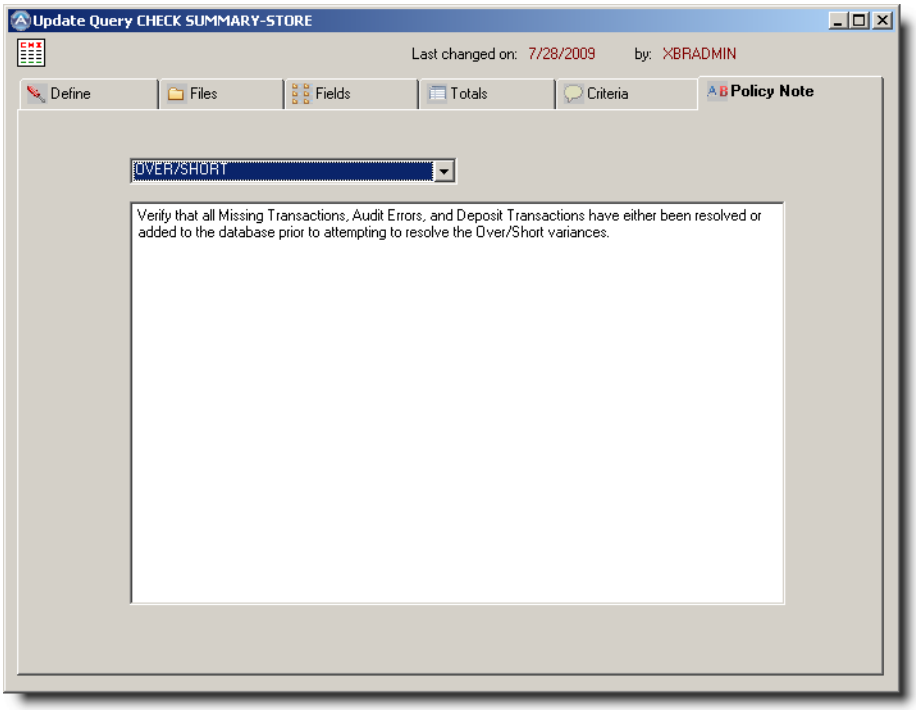


Figure 12-14: Policy Notes

How to Add a Policy Note

1. Click the **Policy Notes** tab on the **Update Query** or **Add New Query** window.
2. Click the **Policy Note** down arrow and select the appropriate policy note name.

Key Points

As the query is being built or modified:

- System Administrators or System Managers can create new Policy Notes for users to attach to a query.
- Click the **Run** button to periodically view the results of the query build.
- Click the **Save** button frequently to avoid losing any unsaved work. Once the query has been saved, it will be listed in the appropriate classification in the Queries list.

CHAPTER 13

Building Query Links

OVERVIEW

Query links allow users to:

1. Retrieve additional data results from one query to another.

   For example, when reviewing data from a Cash Refund by Cashier query, if a cashier is displaying higher than normal cash refund activity, then the user can link to another query like, Cash Refund Details, for more specific details regarding the suspicious activity.

2. Set up and view video footage. In addition to linking to another query, the user can link to video of a specific register/cashier at a specific time frame. The user can also temporarily video shortcuts for later viewing and if necessay, save the video shortcuts for extended amount of time.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Build links from one query to multiple other queries
- Identify values that will be passed from one query to another
- Indicate optional criteria that will reflect the outcome of the linked data

BUILDING LINKS TO QUERIES

The **Link** button is used to create links from one query to another. In order to build a link, the two queries need to have a least one common field shared between them. There are two procedures required when building a link to a query:

- Selecting a query to link to
- Indicating which fields to link on from one query to another

Links can be built at various levels. For instance, users can create links that will allow them to see activity at store level for all cashiers or create links that will allow them to see activity for a specified cashier only.

For example, please note Pam Heil's data in the following report, Discounts & Overrides - Cashier (Pam's price overrides are a count of 182 out of 217 sales transactions):

3/21/2005 13:52 Discounts and Price Overrides by Cashier 9/29/200

Store	Cashier	Cashier Name	Net Sales Count	Net Sales Total	SKU Count	Line Disc Count	Line Disc Total	Line Disc Pct Sales	Line Disc Pct SKU	Price Override Count	Price O
9	9000213	Heil, Pam	217	$11,342.92	503	31	($28.90)	-0.25%	6.16%	182	($1
	9000190	Hartley, Terry	189	$9,354.14	411	17	($49.41)	-0.53%	4.14%	171	($1
17	17000070	Loughry, Emily	195	$9,725.01	469	42	($164.74)	-1.67%	8.96%	146	($
18	18000345	Marissa, Lauren	114	$4,749.02	248	22	($76.84)	-1.59%	8.87%	140	($1
	18000337	Mannen, Kc	120	$5,640.98	272	14	($13.09)	-0.23%	5.15%	137	($
17	17000162	Malhotra, Robert	109	$6,733.20	296	10	($61.93)	-0.91%	3.38%	129	($

Figure 13-1: Pam Heil's Data

User can create a link to view more specific data of Pam's price override activity by passing the following values:

- Store
- Cashier Number

The linked results will focus on Pam's cashier number in Store #9.

If the link is built passing only the store value, then all of the cashiers in Store #9, including Pam, will be displayed in the linked results.

How To Build a Link

1. Select the starting query. This is the query that will initiate the data.

2. Click the **Link** button. The **Link Adhoc Queries** window is displayed.

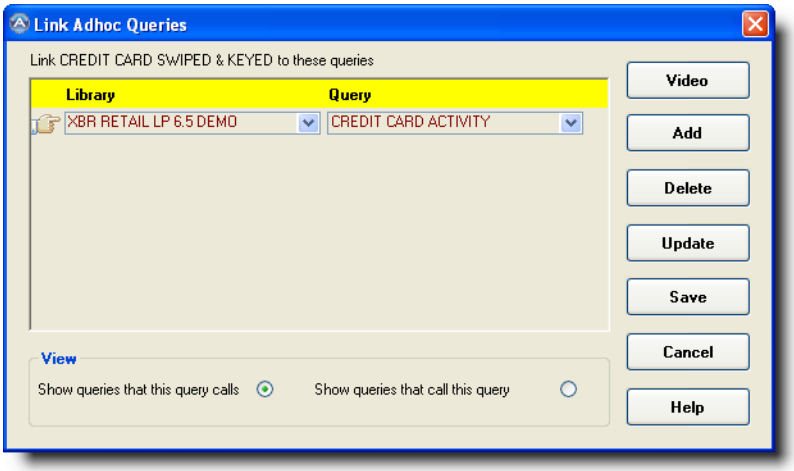


Figure 13-2: Link Adhoc Queries Window

3. In the **Link Adhoc Queries** window:
   - **a.** Click the **Add** button.
   - **b.** Click the **Library** down arrow and select the appropriate library the query to link to is stored in.
   - **c.** Click the **Query** down arrow and select the query name to link to.

4. Click the **Update** button. The **Link Field Maintenance** window is displayed.

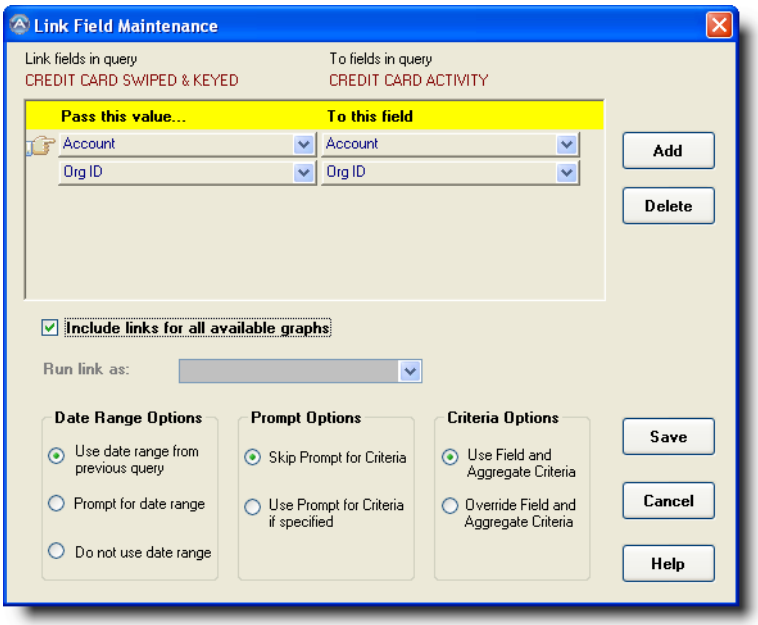


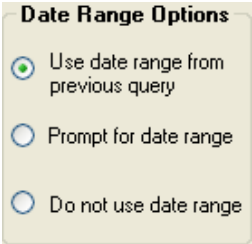
Figure 13-3: Link Field Maintenance

5. In the **Link Field Maintenance** window:

- **a.** Click the **Add** button.
- **b.** Click the **Pass this value...** down arrow, which represents the initial query and select the field name that represents the value being recognized in both queries.
- **c.** Click the **To this field** down arrow, which represents the linked query, and select the corresponding field name that represents the value.

6. Repeat Step 5 for as many fields needed to link on.

7. In the **Date Range Options** section of the **Link Field Maintenance** window, select one of the following:

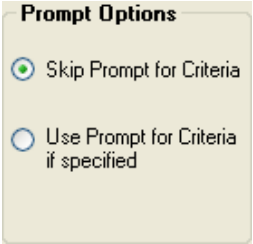


- **a.** Select **Use date range from previous query** to view data from the same time frame as the prior query.
- **b.** Select **Prompt for date range** to allow users to specify a different date range. For example, it may be helpful to view more history and patterns.
- **c.** Select **Do not use date range** to return all of the available data in the database.

8. In the **Prompt Options** section of the Link Field Maintenance window, select one of the following:

   a. Select **Skip prompt for criteria** to bypass prefilter options for the query link.

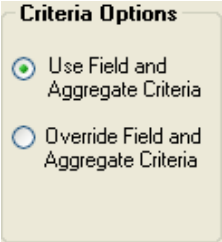
   b. Select **Use Prompt for Criteria if specified** to activate the Specify Criteria section of the Run window of the query when linking to allow users to prefilter the data.



9. In the **Criteria Options** section, select one of the following:

   a. Select **Use Field and Aggregate Criteria** to recognize existing permanent filters built on the linked to query.

   b. Select **Override Field and Aggregate Criteria** to ignore permanent filters built on the linked to query.



10. Click the **Save** button on the **Link Field Maintenance** window.

11. Click the **Save** button on the **Link Adhoc Queries** window.

> If either the **Prompt for date range** option or **Use Prompt for Criteria if specified** option is selected then BOTH options are activated.

BUILDING LINKS TO VIDEO

Video Links

In order to review transaction videos in XBR, the system requires a link from an Adhoc query to the appropriate video.

Video Links can only be accessed from queries built at Detail data levels (Header data levels as well for Retail and Grocery users) and most likely include the following standard fields in the report build:

- Store
- Register
- Transaction Date
- Transaction Time
- Transaction Number

Users can link to a Detail level report, from any other data level, in order to view the media clip for a selected transaction(s) or they can run the applicable report directly from the Query List.

> The System Administrator can create a video link for any query, the Analyst can only create video links for those queries that he/she owns, and the Read-Only user cannot create video links.

Use the following steps to create a video link.

1. Highlight the query you wish to link to a video and click the **Link** icon on the side toolbar.

   The system opens the Link Adhoc Queries window.

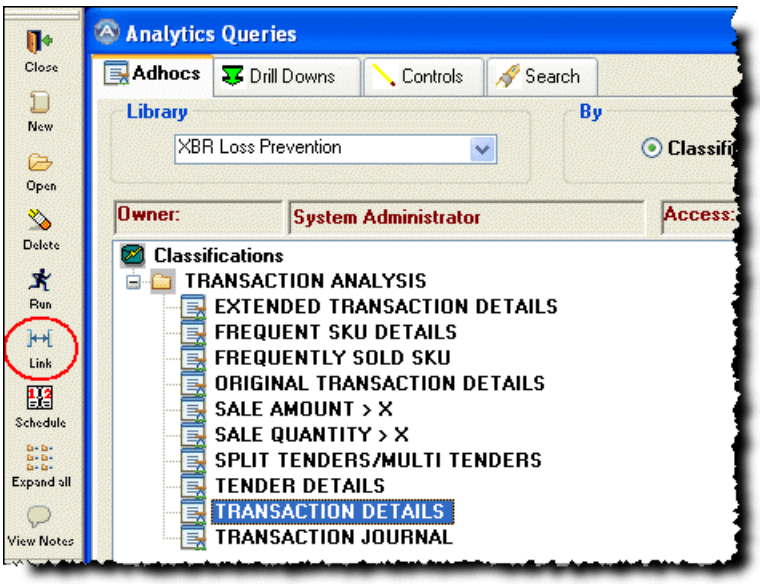


Figure 13-4: Video Link - Query Selection

2. At the Link Adhoc Queries window, click **Video**.

The system opens the Link Field Maintenance window.

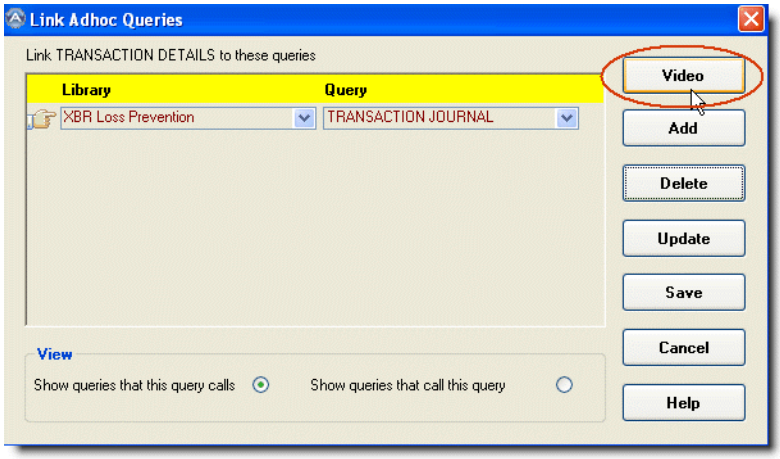


Figure 13-5: Link Adhoc Queries Window

3. At the Link Field Maintenance window, the system automatically displays each field required for linking in the Video Link area (right side) of the window. You must select the same fields in the query area (left side) so that they match what is selected in the video area. Click **Save** to retain your changes.

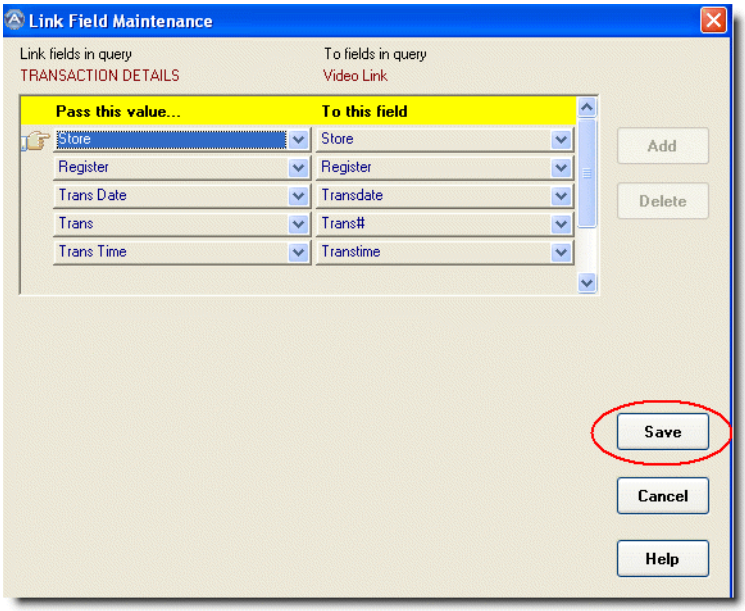


Figure 13-6: Link Query to Video Link Window

4. Click **Save** in the Link Adhoc Queries window to return to the query list. You will not be able to save the query if the fields are not matched properly. If all of the fields required for linking are not available in the query, you will need to update the query to include those fields before you can create a successful link.

XBR

CHAPTER 14

Building New Drill Down Queries

OVERVIEW

Drill Downs can be created as a new query by following the steps in Chapter 1 or by converting an existing Adhoc into a Drill Down query. When a Drill Down query is created, an additional tab appears in the Maintenance window allowing users to establish specific Drill Down elements, like a Drill Down path.

If the user converts an Adhoc in an effort to create a new Drill Down query, then the Save As command is used in the process. The **Save As** command allows the user to make a copy of the Adhoc query prior to converting it to a Drill Down. The new Drill Down query must have a unique name; although it may be a different query type, if it's within the same library as an Adhoc or a Control, then it still needs a unique query name.

It is our recommendation to "convert and Adhoc" into a new Drill Down query rather than build a new one. Converting saves the end user a lot of steps in the process as the main files and fields are already selected; any custom criteria as well as query links are also copied over as part of the process and do not need to be redone.

Drill Downs work off what we refer to as a Drill Down Path. The Drill Down path is the hierarchy of levels that the query will drill down within as the user is running this query type. Drill Down paths can be created as general paths from the main file or from the non-aggregated fields in a query build. Most Drill Down paths follow the Operational hierarchy of a corporate office.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Test the Adhoc prior to converting
- Convert Adhocs to Drill Downs
- Select appropriate Drill Down paths

Converting Adhocs to Drill Down Queries

A Drill Down query is created with at least one aggregate (sums, averages, percents) field but works best with many aggregate fields. These aggregate fields display data for each level identified in the Drill Down path. A Drill Down path can be the organization's hierarchy structure or it can be a different path like the levels of store volume (high, normal, and low) or levels of risk for theft (high, medium, low). The most common drill down path follows that of the organization's store operations hierarchy, such as Division, Region, District, Store and Cashier.

For example, in a potential Drill Down query, the following aggregate fields will appear summarized at each of the levels of the Store Operations hierarchy:

- Total Sales Dollars
- Total Sales Count
- Average Refund Dollars
- Total Refund Dollars
- Total Refund Count
- Average Refund Dollars

The report will display data for the above fields at each level identified in the selected Drill Down path. If the path followed a typical Division, Region, District, Store, Cashier/Associate path, then the summarized data would appear accordingly:

Division	Data would be displayed showing summarized totals for each division for each field.
Region	Data would be displayed showing summarized totals for each region for each field.
District	Data would be displayed showing summarized totals for each district for each field.
Store	Data would be displayed showing summarized totals for each store for each field.
Cashier	Data would be displayed showing summarized totals for each associate for each field.

In order to convert an Adhoc to a Drill Down query, the Adhoc must have at least one aggregate field. Adhocs are converted to Drill Downs by opening the Adhoc and performing a Save As function.

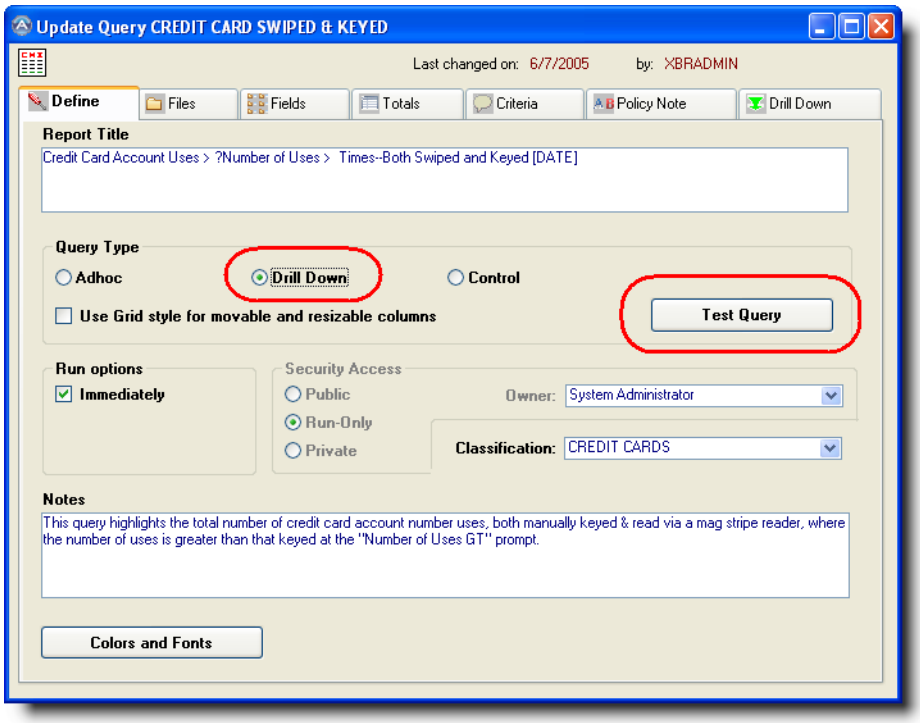


Figure 14-1: Convert Adhoc

Once the Drill Down or Control button is selected, the Test Query button is used to test the Adhoc after changing the query type.

How To Convert an Adhoc to a Drill Down

1. Select the Adhoc query from the Query list and click the **Open** button from the Window toolbar.

> TIP *Right-clicking a query name and selecting **Open** can be used instead of the **Open** button.*

2. On the Define tab, select the **Drill Down** radio button.
3. Click the **Test Query** button.
4. Click the **Save As** button.
5. Type a Drill Down query name. The name must be unique and therefore different from the original Adhoc name.

> TIP *Many users add the letters "DD" to the end of the existing Adhoc name to identify the query as a Drill Down to keep the new query name unique.*

SELECTING A DRILL DOWN PATH

When an Adhoc is converted to a Drill Down, a new **Drill Down** tab appears in the **Update Query** window. This tab is used to define the Drill Down levels used in the query. Most drill down paths identifies the various levels that make up an organization's hierarchy. The standard hierarchy used in this training guide is Division - Region - District - Store - Associate. Other common levels may be:

Store Level Paths that differentiate stores by sales volume, such as high, normal and low

LP Level Paths that differentiate Loss Prevention risk categories by store, such as high risk, medium risk and low risk

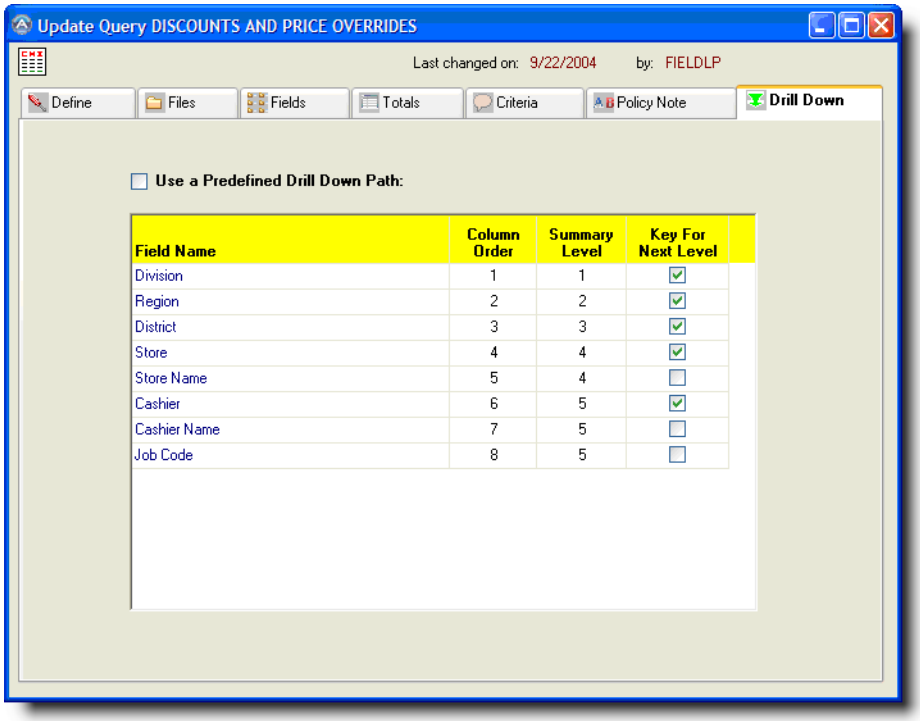


Figure 14-2: Update Query - Drill Down Tab

- Check the **Use a Predefined Drill Down Path** check box to use a predefined drill down path. Predefined drill down paths are generic paths that have been created based on the Main file being used to build the query.
- The **Field Name** column displays all of the non-aggregate fields that exist in the Drill Down query.
- The **Column Order** represents the order in which the field is located on the Fields tab.
- The **Summary Level** identifies which fields will display at each level within the hierarchy. Note that multiple fields can display at the same level. For example, Cashier Number and Cashier Name would likely be displayed together.

- Check the **Key for Next Level** check box to flag the field as a unique level within the hierarchy. This tool allows users to link down to the next level displayed when running the Drill Down.

How To Create Drill Down Levels

1. Click the **Drill Down** tab on the **Update Query** window.
2. In the **Summary Level** column, type in the number that represents the level that the field should display in. Each field must have a value. Some values will be duplicated in order to see multiple fields at the same level.

   For example, the following fields may share the same level:

   -- Cashier Number

   -- Cashier Name

   -- Job Code

   -- Watch Status

   This will ensure that at this level, all of this information will be displayed in the same view.

   > If there is a field required that is not represented on this list, click the **Add Fields** button from the **Fields** tab. Verify that the field is a non-aggregate field.

3. In the **Key For Next Level** column, check the appropriate check boxes to flag each unique level within the hierarchy. This only refers to fields that represent a new level of data within the defined hierarchy; therefore, some fields will remain unchecked.
4. Click the **Save** button from the Windows toolbar.
5. Click the **Close** button from the Windows toolbar.

Predefined Drill Down paths are paths that are built off of available fields from a given table. These paths can be used for Drill Down queries instead of having to build the various levels independently. For example, standard fields from the Store Master table in combination with standard fields from the POS_Statistics Table and Employee Master Table might include Division, Region, District, Store Number and Cashier Number. These fields can then be used to create a generic Drill Down path named "Operations". When Drill Downs are created, users can select to use the "Operations" Drill Down path or they can create a custom drill down path using the available non-aggregate fields available from that query.

When Drill Down paths are created as predefined paths, there is a main file associated with the path name. When this main file is also the main file in a query, then the path name will be available as a predefined path name. Supplemental files can be used to include additional non-aggregate fields not affiliated with the main file, such as Employee Name from the Employee Master file.

How To Select a Predefined Drill Down Path

1. Click the **Drill Down** tab in the **Update Query** window.

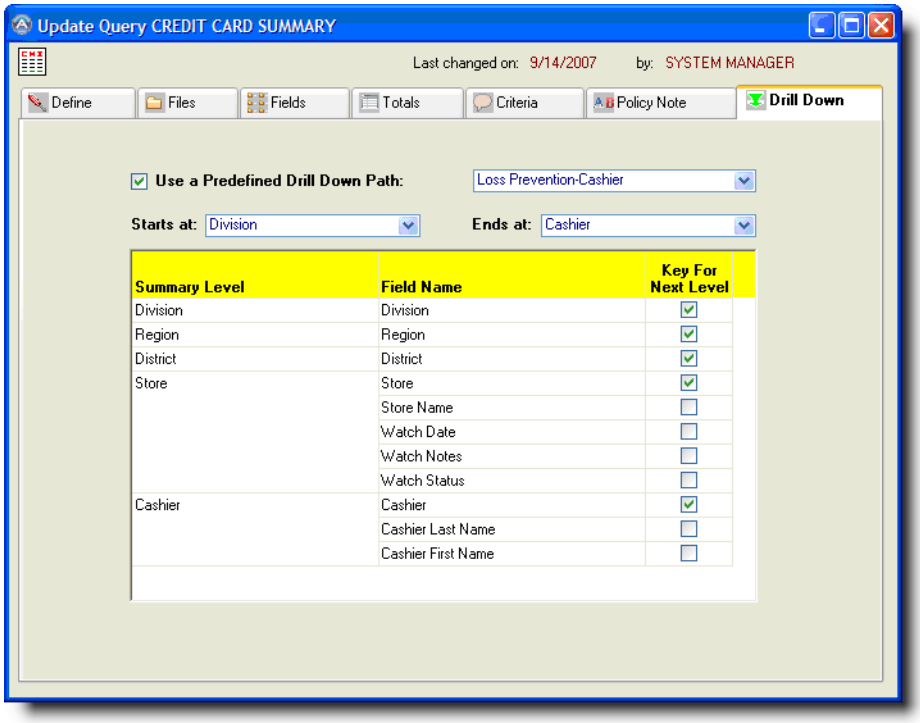


Figure 14-3: Predefined Drill Down Path

2. Check the **Use a Predefined Drill Down Path** check box to activate this option.
3. Click the **Use a Predefined Drill Down Path** down arrow and select a path name.
4. Click the **Starts at** down arrow and select the predefined level to start the Drill Down query at.

> Although a Drill Down path can have multiple levels in the hierarchy, not all of the levels need to be represented in the report. The **Starts at** and **Ends at** options allow for this type of customization.

5. Click the **Ends at** down arrow and select the predefined level to end the Drill Down query at.
6. Click the **Save** button in the Windows toolbar.
7. Click the **Close** button in the Windows toolbar.

CHAPTER 15

Creating New Control Queries

OVERVIEW

Control Queries can be created as a new query by following the steps in Chapter 1 or by converting an existing Adhoc into a Control query. When a Control query is being created, an additional tab will appear in the Maintenance window that allows users to specify Control query requirements like a Control Target and at least one Control Point.

If a user converts an Adhoc in an effort to create a new Control query, then the **Save As** command is used in the process. The **Save As** command allows the user to make a copy of the Adhoc query prior to converting it to a Control. The new Control query must have a unique name; although it may be a different query type, if it's within the same library as an Adhoc or a Drill Down, then it still needs a unique query name.

It is our recommendation to "convert an Adhoc" into a new Control query rather than build a new one. Converting saves the end user a lot of steps in the process as the main files and fields are already selected; any custom criteria as well as query links are also copied over as part of the process and do not need to be redone.

Control Queries require the user to identify a Control Target. The Control Target becomes the focus of questionable data. Most of the existing Control queries point to the Cashier as a Control Target but the control queries could also point to a store or an account number as well as other optional targets.

The following rules apply to building Control Queries:

- The query needs at least one aggregated field
- All parameter references need to be removed from the query build, if applicable
- There needs to be a Control Target identified

There are two types of Control Queries: Control Points and Control Groups. The Control Point uses one aggregated field to measure statistical activity amongst the control target. A target "pops" as an exception if the target exceeded the set threshold for the control point. The Control Group combines up to 10 Control Points in one query build, giving the user access to a target that "pops" as an exception for multiple aggregated fields in one report run. The Control Query itself, identifies the tables, fields and criteria that will be used for the Control Points and Control Groups.

Each control point has a threshold value that determines whether a target will populate as an exception. The threshold is maintained by the System Administrator, System Manager or the Query owner. The threshold can remain static to the entire organization or it can be customized to accommodate different areas of the business. For example, one threshold can be set for "high shrink stores" and a different threshold can be set for "low performing" stores.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Test the Adhoc prior to converting
- Identify Control Targets
- Create Control Points and Control Groups
- Weigh Control Points within a Control Group
- Customize thresholds chain-wide or for specific non-aggregate fields
- Indicate alert criteria for Controls

Converting Adhocs to Control Queries

A Control Point query is made up of two components: a Control Query and a Control Point (or Group). The Control Query represents the available fields that can be used as measures for the Control Point. Each measure (Control Point) contains threshold and alert criteria. Aggregate fields are the only fields that can be used as measures for Control Points such as summed counts, summed totals, averages and percent to sales or transactions.

Control Queries and the Control Points are organized within a Queries classification on the Controls tab in the Queries window. The Queries classification needs to be expanded to access each of the Control queries and the Control query needs to be expanded to access each of the Control Points.

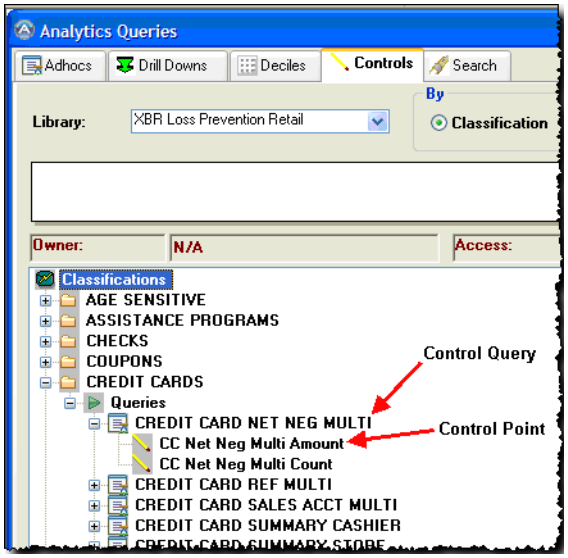


Figure 15-1: Control Query and Control Point

Control Query	Defines the query and contains the fields and criteria that are available to create control points from.
Control Point	Detects exceptions for a specific field from the Control Query that is considered a measure.
Control Group	A combination of control points that are weighed against each other in terms of riskiest to least riskiest control point.

How To Convert an Adhoc to a Control

1. Select the Adhoc query from the Query list and click the **Open** button.
2. Select the Controls radio button.

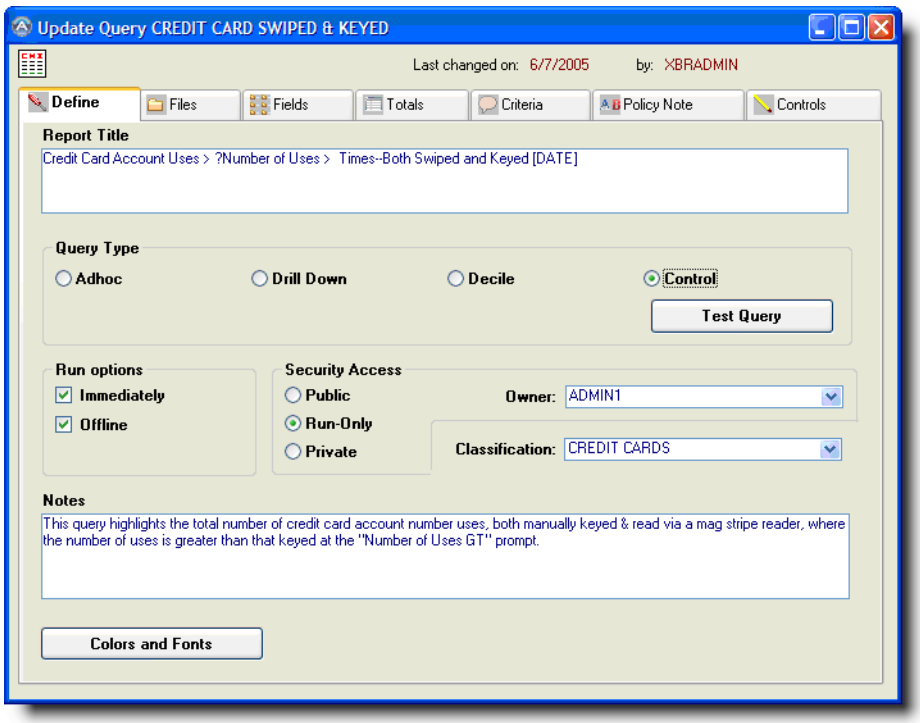
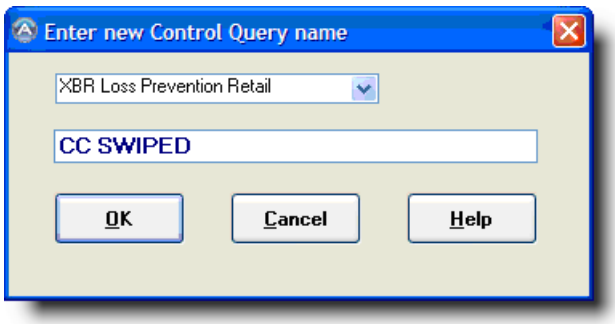


Figure 15-2: Control Query - Define Tab

3. Click the **Test Query** button to verify that there are no errors when running the Adhoc.
4. Click the **Save As** button from the Windows toolbar.
5. Type a Control Query name.



It is strongly recommended that the query name contain the Control Target information. For example, if looking for excessive activity for cashiers, then the control Target would be the cashier. To indicate this on the Control Query, the name might read, "*Refund and Exchange - Cashier*". This helps differentiate a Control query that is used to detect activity at the cashier level versus a Control Query used to detect activity at another target level such as credit card or store number. The name must still be unique and therefore different from the original Adhoc name.

6. Click the **Control** tab.

   The **Control Target** sub tab is used to define the target. The target is the focus of the exception.

   The **Control Points** sub tab is used to create the actual control points and to define thresholds.

The **Control Target** is the focus of the detected exception activity. Control targets are created ahead of time and have key fields associated with them to assist in detecting theft in key risk areas. For example, in a credit card control target, the credit card account number would be the key field for this target. If Stores were the target, then store numbers would be the key field for this target, making a store number a potential case for suspicious activity.

How To Select a Control Target

1. On the **Control Target** sub tab, click the **Target** down arrow and select a target.

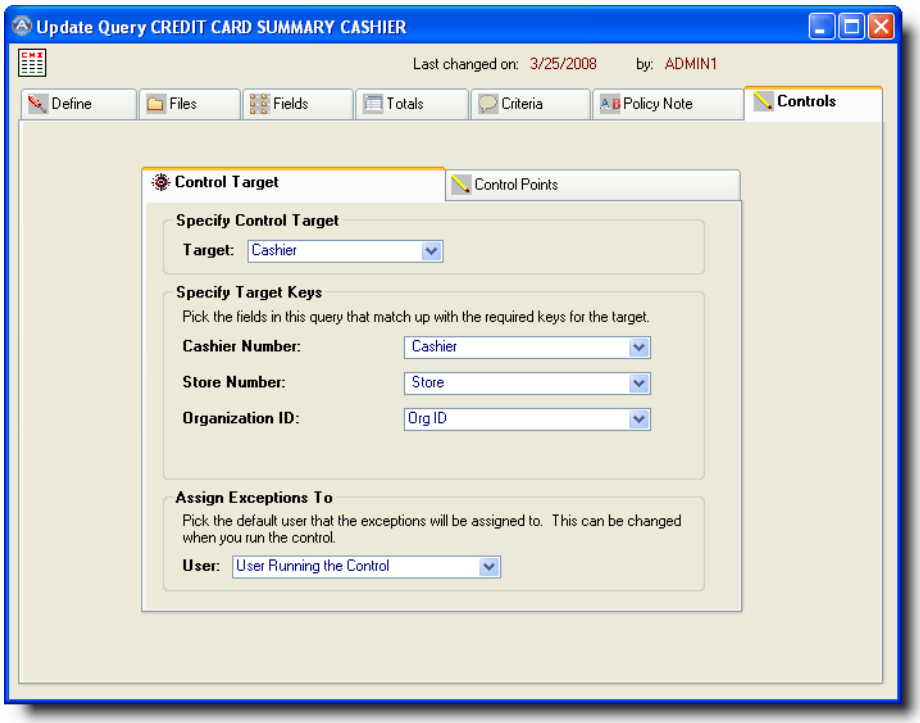


Figure 15-3: Control Target Sub-Tab

2. In the **Specify Target** section, click the down arrow for each displayed field. Select a matching field from the drop down list to establish a link to the key field for this target. For example:

   Cashier # = Cashier Number Store # = Store Number

> The **Control Target** keys will differ based on the selected Control Targets. For example, if Credit Card is selected as the target, then the key field will be the Credit Card Account Number.

3. Click the **Assign Exceptions To** down arrow and select a default User view to store the detected exceptions. "User Running the Control" allows users to review their own exceptions on their own review screens.

The next step in converting an Adhoc to a Control is to define the Control Points by clicking on the Control Points sub tab. Control Points can be added to Control Queries once the Control Target has been identified. There are three key tabs to define new Control Points.

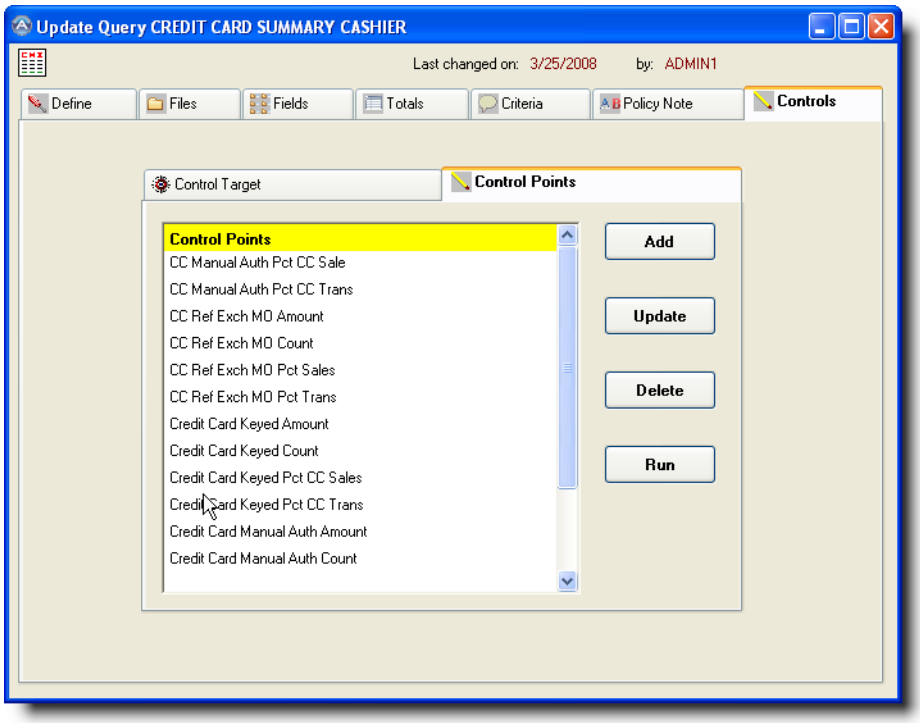


Figure 15-4: Control Points Sub-Tab

Define Tab	This tab is used to define the Control Point. A new control point must have a Control Name before Proact will allow users to select the Criteria or Links tabs.
Criteria Tab	This tab is used to set default and custom thresholds as well as alerts.
Links Tab	This tab allows users to build links between the control point and the Adhoc queries. This process allows users to investigate the detail of detected exceptions.

How To Create a Control Point

1. On the Control Points sub tab, click the **Add** button.

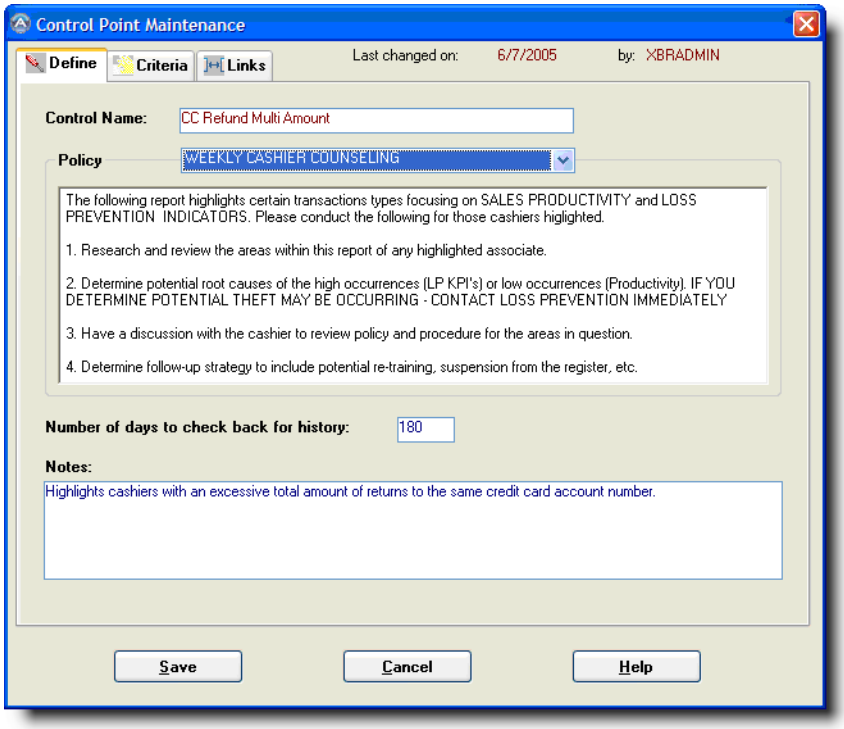


Figure 15-5: Add Control Point

2. On the **Define** tab, click the **Control Name** text box and type the name of the Control Point as it will be listed in the Queries list. For example, a control point that is designed to detect exceptions for cash refund amounts might be named "cash refund and exchange total" to help associate its name with its purpose.
3. **[OPTIONAL]** Click the **Policy** down arrow and select a policy note to attach to the control point.
4. Enter a value for the **Number of days to check back for history** option, if applicable. This option will depend on the length of time that transaction history is stored at your company.
5. Click in the **Notes** area and type in any applicable notes. These notes can be viewed in the Queries list when the control point name is highlighted.

> **TIP** *Use the **Notes** to type the threshold values for control points. That way, analysts can view the thresholds prior to running.*

6. Click the **Criteria** tab to set the thresholds.

Creating Thresholds

The **Criteria** tab consists of three sections, Criteria Levels, Default Criteria, and Alerts.

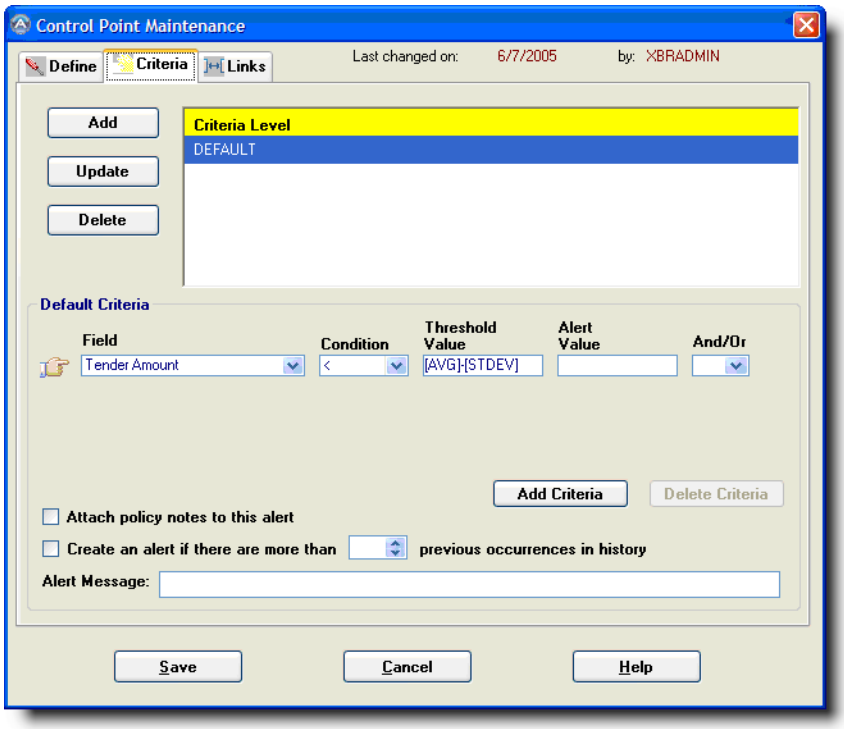


Figure 15-6: Control Point Threshold

- The **Criteria Level** section is used to create custom criteria levels. Businesses that prefer to set thresholds based on business volume, can utilize this area to specify those levels and then indicate the preferred thresholds for each of the specified levels as well. For example, a high volume store might have a Cash Refund and Exchange Total threshold by cashier of -$150.00 but a low volume store could be set at a threshold of -$75.00.
- The **Default Criteria** area is where users select the fields that will be used as measures and then indicate thresholds and alert values accordingly.
- The **Alert** area allows users to create additional alerts based on a history of exception occurrences as well as attaching policy notes and alert messages.

How To Create Thresholds

1. Click the **Criteria** tab on the Control Point Maintenance window.

> In the Criteria Level area, 'Default' refers to a standard for the entire organization. Thresholds can be customized for different areas of the organization by using the Add, Update and Delete buttons in the Criteria Level section at the top.

2. In the **Default Criteria** area, click the **Field** down arrow and select the field that will act as a measure for the control point.

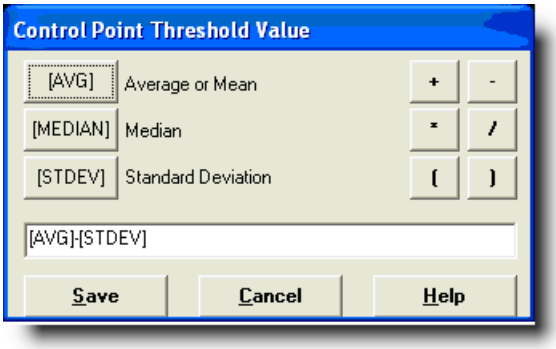
3. Click the **Condition** down arrow and select an operator that best matches the mathematical expression to detect exceptions.
4. Enter a value in the **Threshold Value** text box or double click the **Threshold Value** text box and use the **Control Point Threshold Value** window to create an automated calculation.
5. Click the **Save** button.
6. Close the **Control Point Maintenance** window.

How To Create Calculated Thresholds

1. In the **Control Point Maintenance** window, click the **Criteria** tab.

Please note that Threshold values are set at AVG + STDEV for positive values like counts and AVG - STDEV for negative values like refunds when Analytics is installed. You can however change them to suit your business needs.

2. Double-click the **Threshold Value** text box and use the **Control Point Threshold Value** window to create an automated calculation.
   a. Click the **AVG**, **MEDIAN**, or **STDEV** buttons and operator buttons to create the necessary mathematical expression.
   b. Click the **Save** button for the **Control Point Threshold Value** window.



3. Click the **Save** button for the **Control Point Maintenance** window.
4. Close the **Control Point Maintenance** window.

How To Create Custom Thresholds

Custom thresholds can be created for varying segments of the organization. For example, thresholds can be set differently for higher volume stores versus lower volume stores.

1. Click the **Criteria** tab on the **Control Point Maintenance** window.
2. Click the **Add** button from the Criteria Level section at the top.

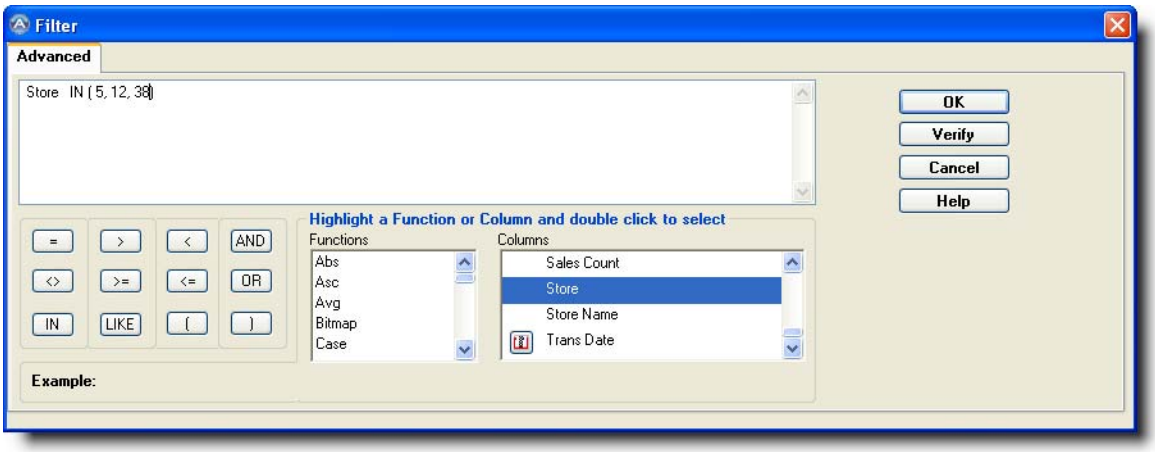


Figure 15-7: Custom Threshold - Filter

3. In the **Filter** window, double click the Field (Column) name so that it appears in the filter box.
4. Click or type the appropriate operator (< > = in).
5. Complete the filter by typing in the necessary value(s).
6. Click the **OK** button.
7. Select the Filter name that was just created.

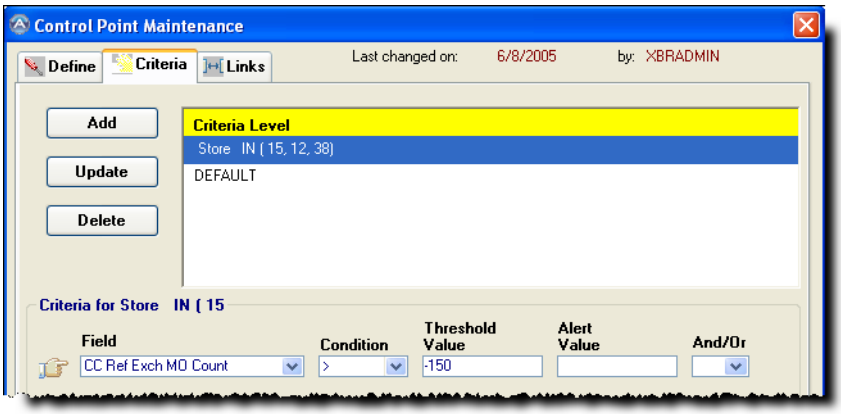


Figure 15-8: Custom Threshold - Value

8. Click in the Threshold Criteria box and type in a more realistic value for this specific group.

How To Create Alerts

> If not already in the **Control Point Maintenance** window, then the Control Point needs to be opened first prior to creating alerts.

1. Click the **Criteria** tab on the **Control Point Maintenance** window.
2. For an alert value, click in the **Alert Value** text box and type in an accurate value. The alert will automatically be generated when the control point is run.
3. To create an alert for a target that repeatedly exceeds the thresholds, check the **Create an alert if there are more than "?" previous occurrences in history** check box. Use the arrows to specify the quantity of occurrences that should occur before an alert is generated.
4. **[OPTIONAL]** Click in **Alert Message** and type a message that will appear with the alert when sent via e-mail or received within Analytics.
5. Click the **Save** button.
6. Close the **Control Point Maintenance** window.

Control Groups

Control Groups are Control queries that contain multiple control points. This allows users to evaluate multiple risk areas in one query.

Prior to creating a Control Group, thresholds need to be established for each of the Control Points that will be used in the Control Group. Thresholds cannot be established within the actual Control Group. When the Control Group runs, Analytics runs and ranks each of the Control Points within the group independently based on established thresholds. In addition, it will also rank each of the exceptions at a group level.

How To Create Control Groups

1. From the **Controls** tab, right click anywhere in the window.
2. Select **New Control Group** from the **New** submenu.

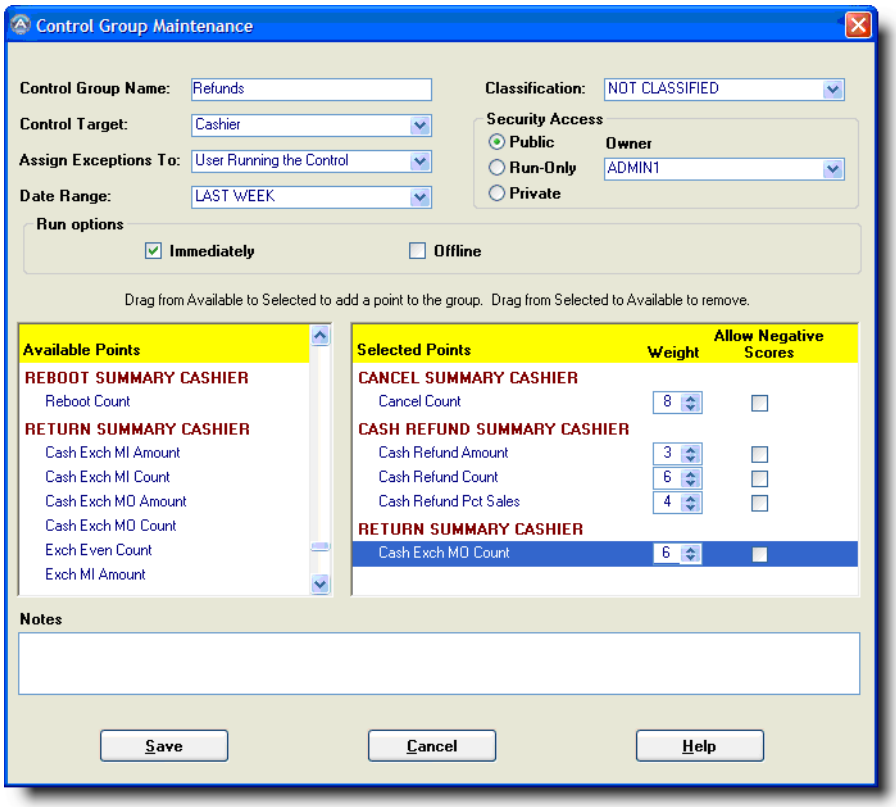


Figure 15-9: Control Group - New

3. Click the **Control Group Name** text box and type a Control Group Name.
4. Click the **Control Target** down arrow and select a control target.
5. Click the **Assign Exceptions To** down arrow and select an appropriate user or select "User Running the Control".
6. Click the **Date Range** down arrow and select a default time frame.

7. Click the **Classifications** down arrow and select a classification to store the control group in on the Controls tab.
8. Click a radio button to identify the **Security Access** for this query.

   Public: All users can modify and run control group.

   Run-Only: All users can run; Query Owners and System Administrators are the only users that can modify the control group.

   Private: Query Owners and System Administrators are the only users that can view, run and modify the control group.
9. Click the **Query Owner** down arrow and select a user as the owner if different than the default.
10. Use the click and drag method to select **Available** control points and drag to the **Selected** control point section on the right.
11. Click the weight arrows to adjust the risk level between the various control groups that are weighted against each other in the group.
12. Click the **Save** button.

CHAPTER 16

Data Dictionary

OVERVIEW

The XBR Analytics Data Dictionary provides access to all of the data elements defined in the system. It contains tables and corresponding fields as well as field mapping and lookup tables. Only a System Administrator can access the Data Dictionary and it assumes some familiarity with SQL and the structure of the database tables being used at your site.

With the Data Dictionary, you have the ability to import fields and tables into the system, edit fields and tables, create and edit lookup tables as well as define field mapping.

LEARNING OBJECTIVES

Upon completion of this section, you should be able to:

- Navigate the Data Dictionary
- Maintain Database Tables
- Maintain Fields in a Table
- Maintain Data Dictionary Mapping
- Maintain Lookup Tables

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LAUNCHING THE DATA DICTIONARY

> **!** *Only System Administrators have access to this function.*

Select **Data Dictionary** from the **Administration** menu to launch the Data Dictionary and define all of the data elements that can be used in queries by Analytics.

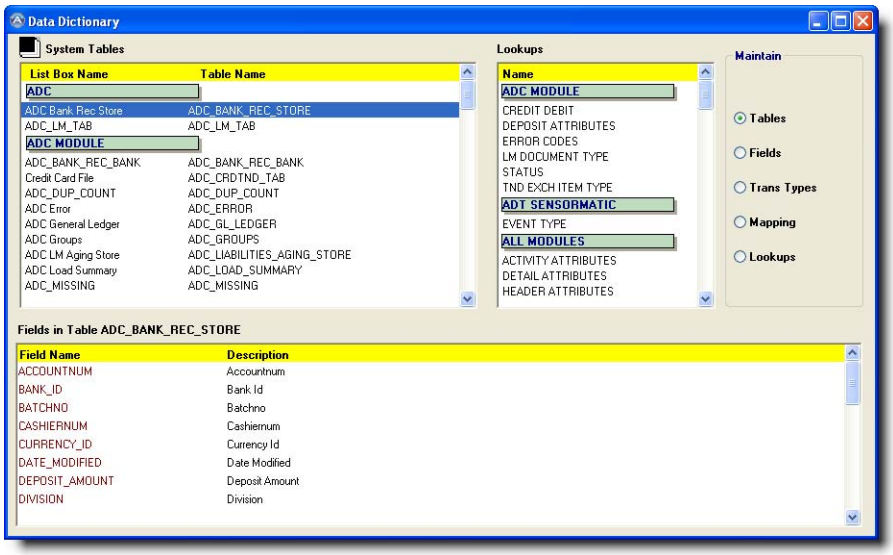


Figure 16-1: Data Dictionary Main Window

Navigating in the Data Dictionary Window

The Data Dictionary main window displays a list of tables and lookups. The Data Dictionary allows you to define various elements, some of which reflect existing objects in your database and some of which are specific to Analytics. The main window contains four sections:

- **System Tables** - a list of tables in your Analytics database
- **Lookups** - a list of tables containing 'lookups' (descriptive text to display) for data values
- **Maintain** - a area that allows users to select whether to view:
  - Tables (activates the System Tables section)
  - Fields (activates the Fields section to view fields within a selected System Table)
  - Transaction Types (activates the Transaction Types used within a selected System Table)
  - Mapping (activates the field mapping used within a selected System Table)

- Lookups (activates the Lookups section)

- The lower section of the screen is dynamic and changes according to your **System Table** selection as well as your selection in the **Maintain** area. This lower section displays elements for the table that is currently highlighted. The element shown depends on what is selected in the Maintain box. If you select **Fields**, it will display fields in the highlighted table. If you change the selection to **Mapping** or **Trans Types**, the list box will change to show any mapping or transaction types defined for that table. If you select a different table, you will see the same type of element listed for the new table.

The **New**, **Open**, and **Delete** options on the Window Toolbar correspond to the active area, based on the option selected in the Maintain box. To activate an area, choose the type of element you want in the Maintain box or click an existing record in the corresponding list box.

To open and edit an existing record, highlight your selection and choose **Open** or double-click the selection. To delete a record, highlight your selection and choose **Delete**. To create a new Table, Field, Transaction Type, Map or Lookup, first activate the appropriate area (or select the option from Maintain) and choose **New**.

Maintaining Data Dictionary Tables

Data tables can be created and edited through the Data Dictionary. You also have the ability to copy and import fields into a new or existing table, and define join specifications, if necessary. The table does need to reside in the database.

Creating a New table

How to Create a New Table

1. Select **Administration -> Data Dictionary** from the Window menu.
2. In the **Maintain** section, select **Tables**.
3. Click on the **New** button on the Window Toolbar. The **Table Maintenance** window is displayed.

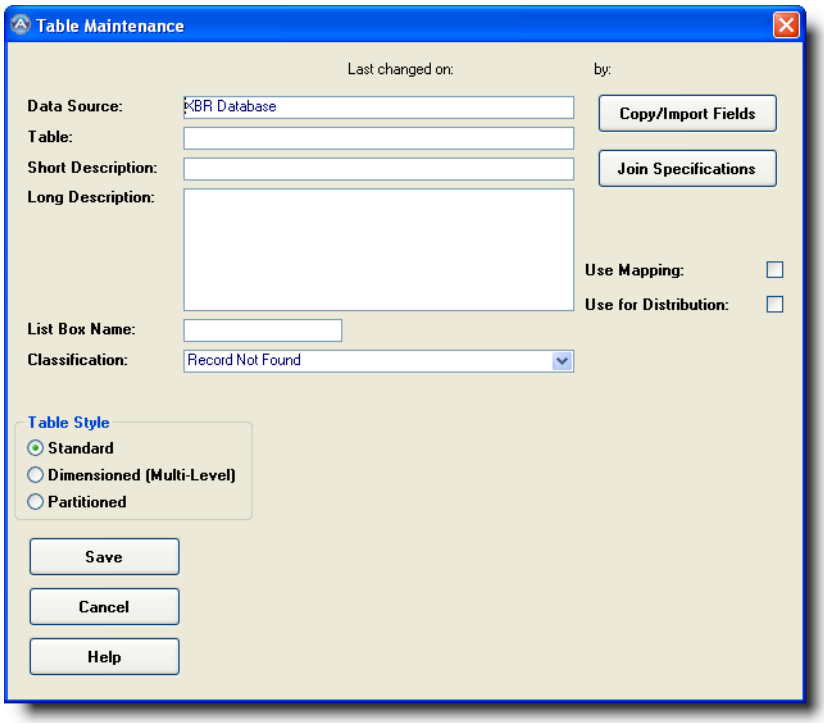


Figure 16-2: Table Maintenance Window

To edit a table, click on the table name and click the Open button.

The Data Dictionary Table Maintenance window allows you to define database tables that can be queried by Analytics. The following information can be used to define your tables:

Control	Description
Data Source	**Data Source** refers to the data source defined in your DTVANALYTICS.INI file in which the table resides. Most sites have all of their tables in one database, which uses the default data source Analytics Database. If your site has connections to more than one database, check the ANALYTICS.INI file to determine the data source name for the database in which the table resides. Enter this name in the Data Source field to ensure that Analytics connects to the right database when it queries this table.
Table	The name of the **Table** is entered when you add a new table definition. This must be the actual SQL table or view name used by your database, and it can contain a qualifier if necessary (i.e. OWNER.TABLENAME). Once a table definition is saved you cannot change the name without deleting and re-adding the table. The name of the table is part of the key for any fields, maps, etc. defined for that table, so if you delete the table all of its child definitions will be deleted as well. If you need to rename a table, you can create a new table definition with the new name, use the copy facility to copy child definitions from the old table, and then delete the old table definition along with all of its child definitions.
Short Description	The **Short Description** for the table is used to help identify the contents of the table, which may not be readily discernible from the table name alone. Wherever the table name appears in the system, this short description will accompany or replace it.
Long Description	The **Long Description** is provided to further define the exact contents of the table or to keep notes about the table.
List Box Name	The **List Box Name** for this table is used in the system wherever there is a list box from which the user will choose a table, as is done in creating or modifying Adhoc and Drill Down queries. It is shorter than the short description field, but still allows you to show the user something more descriptive than the actual table name.
Classification	**Classification** can be used to assign a classification to this table, such as LP, Store Operations, Master Files, etc. This is used to group tables in the Data Dictionary main window and it makes it easier to locate tables in the list.
Table Style	**Table Style** allows you to select Standard, Dimensional (multi-level) or Partitioned.
Use Mapping	Select **Use Mapping** if this is a transaction-level table that uses mapping to identify data elements. This option is not used for version 6.x with the 6.0 data model.

Control	Description
Use for Distribution	Check **Use for Distribution** if this is a table that you are using to distribute auto run reports. For example, you might want to use your region master file to distribute reports to all of your regional managers.
Copy / Import Fields	Click the **Copy / Import Fields** button to access the Copy/Import facility. This will allow you to import field definitions for this table directly from the database, or copy field, map, transaction type, and/or join specifications from another table defined in the Data Dictionary to this table. See Copying/Importing Definitions in the section below.
Join Specifications	Click the **Join Specifications** button if you want to create join specifications to define how this table will join to other tables in the Data Dictionary. See Data Dictionary Join Specifications.

Copying / Importing Definitions

From the **Table Maintenance** window:

1. Click the **Copy / Import Fields** button. The **Copy / Import Field Definitions** window is displayed.

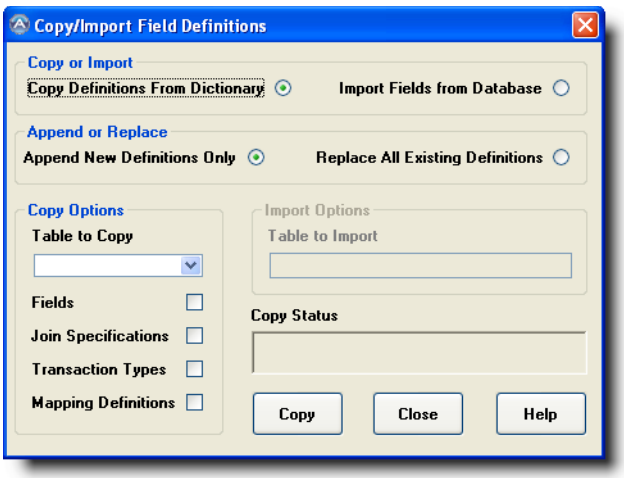


Figure 16-3: Copy/Import Field Definitions Window

2. Select whether you want to **Copy Definitions From Dictionary** or **Import Fields from Database**.
3. Choose whether you want to **Append New Definitions Only** or **Replace All Existing Definitions**.

   Appending will leave your existing definitions in place and only add new definitions that are not already found in the Data Dictionary for this table. For example, you may have imported the field definitions for this table some time ago and have since added more fields to the table in the database. By importing in append mode you can bring only

these new fields into Analytics. If you copy or import in replace mode, you will delete any existing definitions that you have and replace them with new ones.

Copy Options

4. When copying definitions from the Data Dictionary you first specify the **Table to Copy** from the drop down field that lists all of the tables defined in the Data Dictionary.
5. Check off the definitions for this table that you want to copy - **Fields**, **Join Specifications**, **Transaction Types**, **Mapping Definitions**, or any combination of these options.
6. Click the **Copy** button and the definitions you checked off will be copied from the table you selected to the current table. The **Copy Status** box will show you the status of the copy process and notify you when it has finished.

   If you are copying in replace mode, you will be prompted to confirm the replace action if there are any existing definitions to be replaced. You will be prompted once for each of the element types (fields, join specifications, etc.) you elected to replace.

Import Options

7. To import field definitions from the database, simply type in the name of a table in the Table to Import field. This must be the actual SQL name of a database table or view, and the table or view must exist in the database defined by the Data Source chosen on the maintenance window for the table you are importing into. Only field definitions can be imported from the database since join specifications, transaction types, and mapping are relevant only to Analytics and do not exist in the SQL database per se.
8. Click the **Import** button and the field definitions will be imported from the table you selected to the current table. The **Import Status** box will show you the status of the import process and notify you when it has finished. If you are importing in replace mode, you will be prompted to confirm the replace action if there are any existing field definitions to be replaced.

   When fields are imported into the Data Dictionary from the database, Analytics uses the name of each field as a column heading, and it makes a best guess as to the length, format and alignment of the field based on its data type. After you import field definitions, you should update each of the fields to ensure that they are formatted correctly. Refer to the section on Maintaining Database Fields.

General Functions within the Data Dictionary

You can perform any combination of import/copy options on a given table. For example, you could use import in append mode to add new field definitions to the table, then use copy in replace mode to replace all of your transaction types and maps with those from another table defined in the Data Dictionary.

When you are done using the copy/import facility, click the **Close** button to return to the table maintenance window.

Data Dictionary Join Specifications

Join specifications define the SQL FROM and/or WHERE clauses for joining tables in a query.

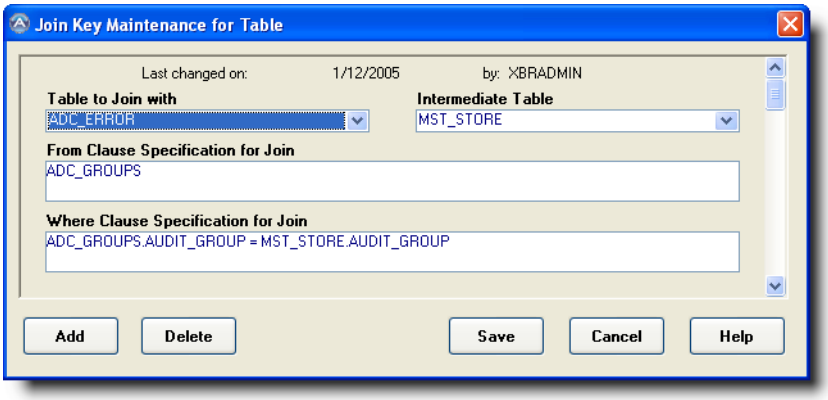


Figure 16-4: Join Key Maintenance

From the **Table Maintenance** window, click the **Join Specifications** button. The Join Key Maintenance for Table window is displayed. This will allow you to define relationships that will tell the SQL database how to join this table to other tables defined in the Analytics Data Dictionary. A table must be defined in the Data Dictionary before it can be used in a join specification.

Although you can join any table in the Data Dictionary to any other table (provided a relationship exists), you will typically be creating joins between what Analytics refers to as main and supplemental files. Main files are the primary data files in the system that contain the operational data, such as from the POS, that is uploaded every day.

For a main file that has Store Number as one of its fields, a file with additional information pertaining to that Store Number would be considered a supplemental file. While the main file may have the Store Number, it may not also have the store's full name, address, phone number etc. However, this supplemental information could be contained in another file available to the system and you would want some mechanism for connecting the two.

A Store Master File is a very good example of a supplemental file. A typical Store Master would contain an identifying store number, address, phone, manager name, etc. Main files in the system such as the LP Store Level File might contain only the store number. When querying the main file, you might also want to be able to view information about the store that is available only in the supplemental file. By establishing a relationship between the two files in advance, you are able to gain access to that additional information. The relationship between a main file and a supplemental file is established by identifying the common data

they share. In the example above, each file contained the store number. By using this common field as a join specification you are able to link the files together.

To add a new join specification click the **Add** button. To delete an existing specification, highlight it and click **Delete**. To create or edit a specification, select a **Table to Join With**. Usually this relationship is direct, that is, a field in Table A maps directly to a field in Table B. In some instances, a third intermediate table exists or must be created in order to make the connection.

Consider the situation where DISTRICT_MASTER contains information on Districts, such as the District manager name, phone, address, and District Number. STORE_MASTER contains information on Stores, including the District Number in which they reside. STORE_SALES contains sales information by Store Number. You cannot directly link STORE_SALES with DISTRICT_MASTER because they do not share any fields. However, STORE_MASTER shares the field District Number with DISTRICT_MASTER and the field Store Number with STORE_SALES. Therefore, it would be possible to use STORE_MASTER as an Intermediate Table to link DISTRICT_MASTER and STORE_SALES.

A join specification contains a SQL FROM clause and, in many cases, a SQL WHERE clause. The FROM clause may simply name the table(s) to be joined. By default, the FROM clause contains the name of the table you are building join specifications for. For example, if you are building a join for the STOREMST table and you pick REGION as the Table to Join with, the From Clause Specification would default to STOREMST.

Some SQL DBMS's allow you to specify the full join specification in the FROM clause, for example

```
join storemst on storemst.region = region.region
```

where `storemst.region` and `region.region` are the common fields used to link the respective tables. This syntax varies from one DBMS to another (see the table below). Some DBMS's require the full join specification to be in the FROM clause if you are creating an outer join (see below).

In other cases, most of the join specification is defined in the SQL WHERE clause, where you identify the fields that link two tables together. WHERE clause syntax is defined in the Where Clause Specification as

```
tablenameA.fieldname = tablenameB.fieldname
```

For example, the join specification for the tables DISTRICT_MASTER and STORE_MASTER might be

```
DISTRICT_MASTER.DISTRICT = STORE_MASTER.DISTRICT
```

The join specification for the tables STORE_MASTER and STORE_SALES might be

```
STORE_MASTER.STORE = STORE_SALES.STORE
```

In order to create a join for the DISTRICT_MASTER table with the STORE_SALES table in the above example, you would specify STORE_MASTER as the intermediate table with the WHERE clause defined as

```
DISTRICT_MASTER.DISTRICT = STORE_MASTER.DISTRICT
```

Analytics will use this relationship to link DISTRICT_MASTER to the intermediate table STORE_MASTER. It will then find the relationship between STORE_MASTER and STORE_SALES to link the three tables. The STORE_MASTER/STORE_SALES relationship would also need to be defined in order for this to work.

Outer Joins

Outer joins are used when all of the records in one table do not have a corresponding record in the table they are being joined with. For example, let's say your employee master table is missing some records. If you join your employee sales table with the employee master table, you will not see any sales data for employees who are not in the master file. An outer join allows you to see the employee sales records even if there is no match in the employee master. Any fields that would have been pulled from the master file such as employee name, job code, etc. will be left blank in your report, but the employee number and sales figures from the employee sales table will still be displayed.

The following table shows how an outer join can be specified for various DBMS's. Assume that you are building join specifications for the EMPLOYEE_MASTER table and that the Table to join with is EMPLOYEE_SALES.

DBMS	From Clause	Where Clause
Oracle	EMPLOYEE_MASTER	EMPLOYEE_SALES.SSN = EMPLOYEE_MASTER.SSN (+)
MS SQL 6.5	EMPLOYEE_MASTER	EMPLOYEE_MASTER.SSN =* EMPLOYEE_SALES.SSN
MS SQL 7.0	left outer join EMPLOYEE_MASTER on EMPLOYEE_MASTER.SSN = EMPLOYEE_SALES.SSN	
MS SQL 2005		
Sybase	EMPLOYEE_MASTER	EMPLOYEE_MASTER.SSN =* EMPLOYEE_SALES.SSN
Informix	outer EMPLOYEE_MASTER	EMPLOYEE_MASTER.SSN = EMPLOYEE_SALES.SSN
DB/2	left outer join EMPLOYEE_MASTER on EMPLOYEE_MASTER.SSN = EMPLOYEE_SALES.SSN	

If you are using the FROM clause to define outer join conditions then you should define all join conditions this way. Analytics can be sensitive to the order that tables are added to a query if some join conditions are specified in the FROM clause and other join conditions are specified in the WHERE clause.

Maintaining Data Dictionary Fields

Fields are used to define all of the database columns in each table that can be queried by Analytics. Field definitions also contain default-formatting settings so a field displays consistently in all reports in which it exists.

How to Create a New Database Field

1. Select **Administration -> Data Dictionary** from the Window menu.
2. Highlight the table you wish to add the field to in the **System Tables** list.
3. In the **Maintain** section, select **Fields**.
4. Click the **New** button on the side toolbar and the **Field Maintenance** window will appear.

> If you would like to edit a field, highlight the table that contains the field you wish to edit, click on the field name in the lower section of the Data Dictionary main window, and click the **Open** button

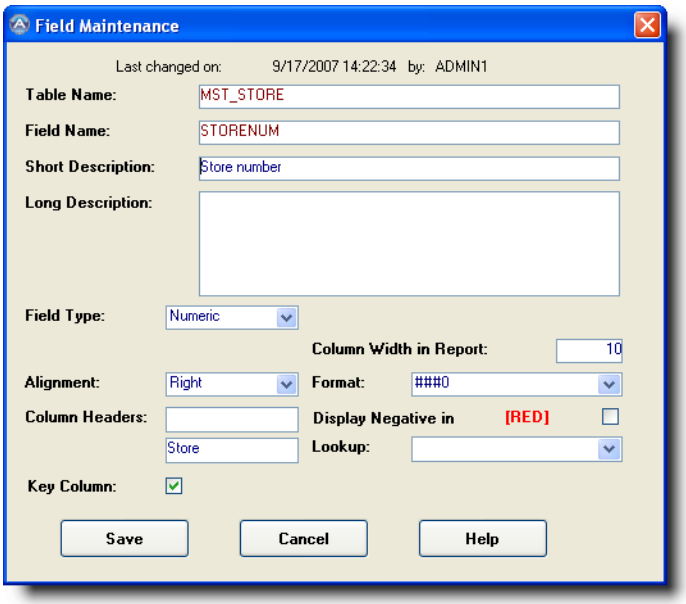


Figure 16-5: Field Maintenance

5. The **Data Dictionary Field Maintenance** window allows you to define each field in the database tables available for querying by the Analytics system. For each field, you can set up formatting information, which is used to enhance the display of a field in the query results. The following information can be used to define your field:

Control	Description
Table Name	The **Table Name** is the name of the table to which this field belongs and cannot be changed. When you add a new field the table name comes from the table that is highlighted in the Data Dictionary main window at the time.
Field Name	**Field Name** is the actual SQL column name that is used in the database.
Short Description	The **Short Description** for the field is used to help identify the contents of the field, which may not be readily discernible from the field name alone. Wherever the field is available in the system, this short description will accompany or replace it.
Long Description	The **Long Description** is provided to include more detailed notes about the field. These notes are also available to users from within query definition windows. In these windows, a user can right mouse click a field name and see this descriptive information.
Field Type	**Field Type** may be Character, Date, Time, or Numeric but must logically correspond to the actual database data type of the field.
DBMS Column Size	**DBMS Column Size** applies only to character fields. This is the actual size specified in the database for this column, for example 20 if the field was defined as char(20). You do not usually need to fill this in, since Analytics will estimate the column size when you run a query based on the column width for the report (see below). Sometimes for very large fields, however, Analytics's estimate will be insufficient for certain DBMS's and you may receive a Data Truncation or Overflow error when running a query. In this case, you can use DBMS Column Size to specify a large enough size for the field. The alternative would be to use a very large column width for the report, which might make the report difficult to work with.
Column Width in Report	**Column Width in Report** sets the width of the column as it will be displayed in the query results. This is not the same as the database column size as required by the DBMS. If a long field, like store address, is being cut off in your report, increase its width.
Alignment	**Alignment** determines whether the contents of the column are aligned to the left, right or center.
Format	**Format** is used to specify how a date or numeric field will appear. For example, a numeric field may be displayed as a dollar amount or percentage, while a date field could be in 1/1/02 or Jan. 1, 2002 format. Character fields should use NONE for their format.

Control	Description
Column Headers	**Column Headers** sets the descriptive heading for the column. Each column heading consists of a two-line description with each line allowing up to 25 characters. Any letter or number, #, $, %, &, or space can be used in the headings.
Display Negative In Red	**Display Negative In Red** applies only to numeric fields. Check this option if you would like the value to display **Red** in parenthesis **(90)** when it is a negative number.
Lookup	**Lookup** defines the lookup table, if any, to use for the column. For instance, if the field contains coded data, such as reason codes, a lookup can be used to provide descriptive text for each code (01 = Employee Discount). Lookup tables for fields are predefined in the Data Dictionary. See "Maintaining Data Dictionary Lookup Tables" on page 281 for more information.
Key Column	Check **Key Column** if this is the field that serves as the unique identifier within the table.

The Field Type, Format, Column Headers, Column Width in Report, Alignment, and Lookup values specified here are used as the default settings for this field in the system. When a field is used in a specific query these default settings can be overridden.

Maintaining Data Dictionary Lookup Tables

Lookups are code tables used to translate cryptic values stored in the database into something more descriptive. For example, reason codes such as 01, 02, etc. can be translated into text descriptions like Employee Discount, Damaged Merchandise, etc. Once a lookup has been defined, it can be associated with a field or map definition so the coded value gets translated to the descriptive value in query results.

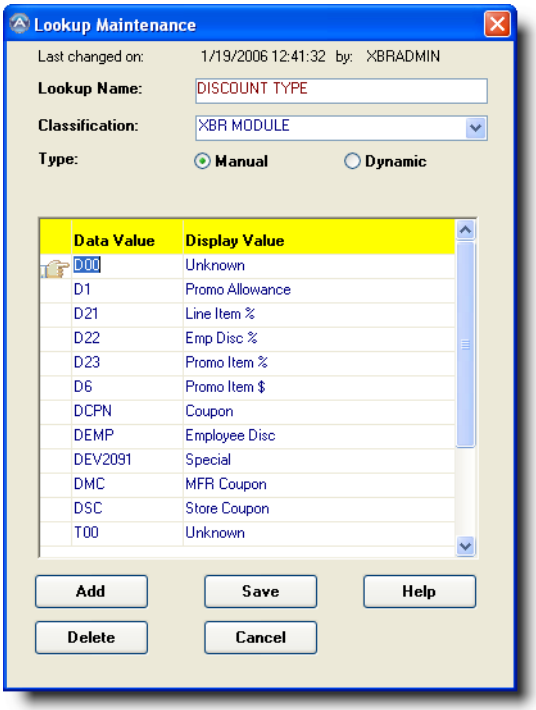


Figure 16-6: Lookup Maintenance

For any field that uses codes to represent the longer and more descriptive value, you can create a lookup. A lookup allows for a simple one-to-one mapping of a Data Value to a Display Value. Continuing with the example above, a lookup could be created pairing reason codes with their full descriptive names. You could then assign this lookup to any fields or maps defined for database columns containing reason code abbreviations. When these fields or maps are used in queries, you will now see the full name of the reason code instead of the numeric code value. You can also create a Dynamic Lookup refer to the System Administration section for details.

Refer to "Creating Lookup Displays" on page 24 formation on Manual Lookups or "Creating Dynamic Lookups" on page 26 for information about Dynamic Lookups.

CHAPTER 17

Table Editor

OVERVIEW

Table Editor is designed to let you maintain database tables that are used within the Analytics modules. For example, it is an efficient means to organize and edit existing master files. Data can be managed through basic functionality like sorting, filtering, printing and exporting. Table Editor allows the flexibility of modifying multiple fields in a master file by utilizing spreadsheet or data form formats, radio buttons and drop down lists in conjunction with existing functionality.

Table Editor is organized into Tables, Blocks and Tabs.

Tables	Tables provide access to all of the available fields from each of the available files. Fields can be added, reformatted and declared editable or non-editable. Editable fields allow users with appropriate security access to edit the data in this field. A field may be editable, however one user may have access to edit the field and another user may only have access to review the contents of the field based on the security access that has been set up for both users.
Blocks	Blocks provide end users with a view to the data for all of the fields or a selection of the fields from the available tables. When a Block is accessed, data can be viewed in either a spreadsheet format or a data entry form format. Fields that are editable will appear in white cells; fields that are not editable will appear in gray cells. Users need to have security access assigned to their user names in order to access a Block of information.
Tabs	Tabs are used to organize accessible Blocks. Users need to have appropriate security rights assigned in order to access the contents of a tab.

The editor is configurable so that you can edit any tables available at your site. You can define a Table and all of its fields in Table Editor. The edit window has all the same features as the Analytics report window (sorting, filtering, printing, exporting, etc.) plus the ability to modify the field data. You can give users access to Blocks. Blocks are secured from users unless they are specifically given access. This Block security lets you give your LP staff access to the LP Block but not to the Store Operations Block.

In order to define Tables, Fields, and Blocks you must be an Analytics System Administrator. Analytics users with security set to System Manager, Analyst or Read Only levels will be able to edit Blocks to which they have been given access, but they will not be able to configure tables.

Case and Incident Management is also available in Analytics Table Editor. Predefined forms allow the user to maintain internal theft, restitution, shoplifting, and accidents. A suite of Analytics Adhoc reports provides visibility to the information that you enter using Table Editor. These queries are maintained in the XBR module and classified under Case Management and Incident Management in the Adhoc query list.

ACCESSING TABLE EDITOR

You can access Table Editor from the Tools Menu or if you have a Table Editor tab with Blocks set up on your Quick Run window.

1. Select **Tools ->Table Editor**. Table Editor will launch.

Figure 17-1: Tabs and Blocks

OR

1. Select the Table Editor tab on your quick run screen. If you do not have a Table Editor tab you can create a new tab and add a Block to it. See the Quick Run section in the XBR Fundamental Training Guide.
2. Double click the Block that you want to review. This will launch Table Editor and open the Block you selected.

SECURITY

Analytics has four user security levels (System Administrator, System Manager, Analyst, and Read Only) that are defined within the user profile. Within each Users Profile is the option to grant access to Table Editor. Only the System Administrator can create Tabs, Blocks and set up tables to maintain. The Systems Administrator has to give each user access to the Tabs and Blocks they will be maintaining. Therefore when you launch Table Editor, you will only see the Blocks you have been given security access to.

System Administrator

The System Administrator has the ability to define tables, Fields, and Blocks in Table Editor. The ability to define these different pieces of the Table Editor is strictly a System Administrator function. In order to maintain the data on the Table Editor Blocks, the System Administrator must be a Selected User to access the Block. System Administrators must also grant access to users for the Tabs and Blocks the user will need to maintain. Each Block has security for what each user can do within the Block.

Systems Manager, Analyst, and Read Only

The Systems Manager, Analyst, and Read Only levels have the ability to modify Block information only if the System Administrator has given them security rights to the Tab and Block. The System Admin must give access to the tab the Block(s) are on first and then give access to the individual Blocks.

Enabled	The user can access the Block information. This allows the user to launch the Block and modify any editable fields.
Add / Delete	The user can add/delete records to the Block as necessary. For example adding another SKU to the SKU Master file.

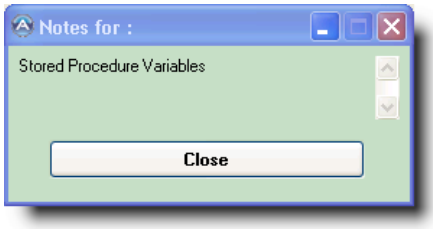
Granting Access to Table Editor

1. Select the Administration, User Profile menu options.
2. Double-click the Users to grant access to Table Editor.
3. Within the Common Components section, check Table Editor.
4. Click the **Save** button

The System Admin must st ill give users access to the Tabs and Blocks. See Block Security page 19 and Tab Security page 24 for more information.

Using Table Editor

When you first log in to Table Editor, the Block Selector window will be displayed. This window shows all of the Blocks and Tabs you have been given access to.



- To see more information about a Block, right click to bring up the notes window. Notes are entered in the Block Maintenance window.
- If you close the Block selector window, you can reopen it by clicking the Select Block icon.
- When opening a Block you may first be prompted by a retrieval criteria window. A filter can be created by building an expression using the drop down dialog boxes. Each filter will have at least 3 components: Column Name, Criteria and Value.
  - Select the column name you wish to apply your filter to from the “COLUMN” dialog box. Select the appropriate CRITERIA (=, <, >, <>, starts with, includes, etc.). Type the appropriate VALUE for your filter.

    For Example: If Hire Date is one of the columns in your report; you could create the filter Hire Date > 02/05/08. The report would then be displayed with only records with a Hire Date greater than 02/05/08.

WORKING WITH DATA

Once you double-click a Block to display data, you are able to perform certain functions. There are three styles that can be used to set up a Block and display data. They are:

Data Entry Form	Allows users to enter data in a form format. You can choose the fields you would like to be on the form and other features like list box or check boxes.
Spreadsheet Grid	Data is set up in columns and rows similar to an Excel worksheet. You are able to resize and move columns.
Fixed Column	Data is set up in columns and rows that are a fixed width. You cannot resize columns or move them right in the window like you could in a Spreadsheet style.

- With all formats you can export the data to a database, spreadsheet, or text file for use with other software products. Files can be exported in PSR format for use by XBR’s standalone Query Viewer. Files that are exported as .TXT or .DBF files can later be imported into a Block.

> When you export a form as a PSR only the tab you are currently on will get exported. The navigation buttons are not exported so you will not be able to move from record to record. It is best to export a form to a spreadsheet format, so that all the records will be listed.

- You can print the data or write it to a print file.
- You can change the size, margins, and layout (portrait vs. landscape) of the window. This is especially helpful in getting it to print the way you want it to.

- You can filter additional information out of the Block. For example, if your results contain information for all states, you can set a filter to look at just one state or a group of states.
- You can change the sort order of the Block. For a quick sort, if you click a column heading the data will be sorted in ascending order by that column. Click the same heading and the data will re-sort in descending order.
- You can import data from a .TXT or .DBF file into the Block if this option is available for the Block.

Adding and Deleting Records

If the New and Delete icons are available on the toolbar, then you can add and delete records from the Block. This will depend on how the System Admin set up the options and security for the Block.

To add a new record, click the New icon. The new record will be inserted above the currently selected record. When adding records, be sure to fill in any required fields (including key fields like store number) or else you will get an error message from the database when you try to save your changes.

To delete a selected record, click the Delete icon. You will be asked to confirm that you really want to delete this record. Records that you delete are not actually deleted from the database until you save your changes. If you close the editor window without saving changes then the records you deleted will still be in the table.

WORKING WITH MASTER FILES

Master Files Blocks are used to maintain company specific information in SQL tables that can be reviewed within Analytics. When building and modifying Analytics reports, the user can add master file information as supplemental files in the query to make the reports more meaningful. A few common examples of master files are:

- Store master
- Region master
- District master
- Employee master

The advantage of maintaining your master files is that you can make changes to the information that is maintained in those tables as they occur. For example, if a store manager was reassigned to a different store you can update the information in the master file when it occurs, therefore the information will be correct when you run a query for that store. Each master file has security, which allows the System Administrator to restrict users from viewing the information.

The fields in the master file Blocks can be set to either editable or non-editable fields. If a field is editable, a user with proper security can modify the fields in the Block. For example, fields such as store number, city, and state would normally be set as non-editable fields in the store master. A few examples of editable fields might be manager name, start time, and close time. These fields could always be changing so they are set as editable allowing the

changes to be maintained in the Table Editor. You can also add and/or delete records in a Master File Block. See Adding and Deleting records on page 5.

Basic Steps – Maintaining Editable Fields in Table Editor

1. Double-click the Master File Block name.
2. Click the editable field that you want to modify.
3. Make the proper field changes.
4. Click the **Save** button.

DEFINING TABLES

To define (add) and maintain tables and fields in Table Editor select **Administration -> Tables** from the menu bar.

The table list window allows you to access table and field definitions. You can add, update, and delete tables from this list and you can also modify the table's description and mark it as active or inactive.

To access a table to maintain it through Table Editor you must define (add) the table and create a Block for it. Follow the steps below:

1. Select **Administration -> Table** from the menu.
2. Click the New icon. The Add New Table Definition dialog box will display. To edit an existing table definition select the table name from the list and click the Open icon.
3. Select a table from the drop down list. This is the actual SQL name of the table as it exists in the database. This can only be entered when adding a new table definition. It cannot be changed once the table definition has been saved.
4. Type a short description of the table in the Description box.
5. Make sure there is a check mark in the Active box. This box indicates if the table is active (checked) or inactive (unchecked). If you make a table inactive it will not be available for editing until you re-activate it.
6. Type in any notes in the Notes box.
7. Click the **Save** button. The dialog box will remain open so you can define the fields.

Adding Fields to a Table

Once you have defined the table in the Add New Table Definition dialog box, the Fields in Table tab will become active.

1. Click the Fields in Table tab. Notice all the fields are already listed.
2. You can make fields active or not active by placing a check in the Active box. Only make the fields active for those fields you would like to show up on the form, spreadsheet or fixed column format.
3. To designate a key field, check the box for that field in the Key column. See page 9 for details of choosing a key field.
4. **[Optional]** Click the **Update Table Definition** button to append or replace fields in the table. If new fields have been added to an existing table you may want to use the Append option to add just the new fields to your table definition. Otherwise the Replace Existing Definitions will replace the fields.
5. Click the **Import** button. If you choose Replace a message will display asking if you want to replace existing fields that are already defined.
6. Click **Close** to exit from this window.
7. Click the **Save** button.

Defining Fields in a Table

Once you have selected the fields from the table you can define and format the fields.

1. Select the **Administration -> Tables** from the menu.
2. Double click the table from the Table Maintenance list to format the fields.
3. Select the Fields in Table tab in the Update Table dialog box.

4. Double click a field to format it. The Update Field (field name) will display.

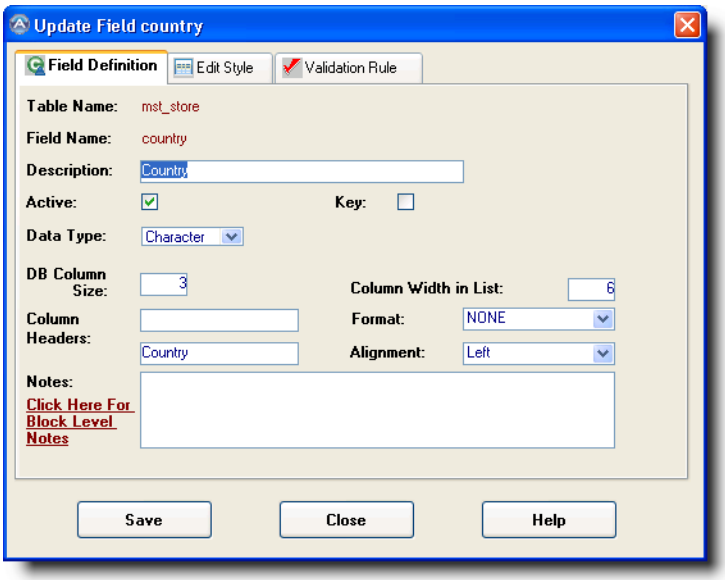


Figure 17-2: Update Field Form

5. Fill in the following fields on the Field Definition tab. Default data from the database is automatically displayed in some fields.

Option	Description
Active	Indicates if the field is active (checked) or inactive (unchecked). If you make a field inactive it will not be available for editing until you re-activate it.

Option	Description
Key	Indicates if this field is a key for the table. All tables require at least one key field so that an SQL WHERE clause can be generated for UPDATE statements. It is important that you choose the correct key for your table. Generally the key will be any field or combination of fields required to identify a unique record. For example, the key for your store master table would be store number if this is unique across all divisions. If the same store number can occur in different divisions, you would have to make both division and store number a key. If a key is not unique, the following scenario could occur: If Store number was set as the key for the store master table, but it really should have been Division and Store Number, because Store Number is not unique. When Store 100 in division 1 is updated in the editor window and the status is changed from “open” to “closed”, Store 100 in Division 2 and Store 100 in Division 3 are also changed to “closed”. This is because the editor thinks this update should be applied wherever Store = 100. If the key were defined correctly, it would only update the table where Store = 100 and Division = 1.
Data Type	This can be Character, Date, Time, or Numeric but must logically correspond to the actual database data type of the field.
DB Column size	This applies only to character fields. This is the actual size specified in the database for this column, for example 20 if the field was defined as char(20). You do not usually need to fill this in, since Table Editor will estimate the column size when you run a query based on the column width for the Block listing (see below). Sometimes for very large fields, however, the editor’s estimate will be insufficient for certain DBMS’s and you may receive a “Data Truncation” or “Overflow” error when running a query or saving changes. In this case, you can use DB Column Size to specify a large enough size for the field. The alternative would be to use a very large column width for the Block, which might make the Block difficult to work with. If you imported this field definition from the database, the import process should have filled in DB column size.
Column Width in List	This sets the width of the column as it will be displayed in the Block listing. This is not the same as the database column size as required by the DB. If a long field, like store address, is being cut off in your listing, increase its width.

Option	Description
Column Headers	Enter a descriptive heading for the column. Each column heading consists of a two line description with each line allowing up to 30 characters. Any letter or number, #, $, %, &, or space can be used in the headings.
Format	This is used to specify how a date or numeric field will look. For example, a numeric field may be displayed as a dollar amount or percentage, while a date field could be in 1/1/08 or Jan. 1, 2008 format. Character fields should use NONE for their format.
Alignment	Determines whether the contents of the column are aligned to the left or right of the column or centered in it.
Notes	Enter any descriptive notes for the field. These are accessible if a user right clicks on a field in the editor window.
Click Here For Block Level Notes	Add notes to a Block or for all Blocks using this specific table.

Edit Style Tab

1. Click the Edit Style tab.

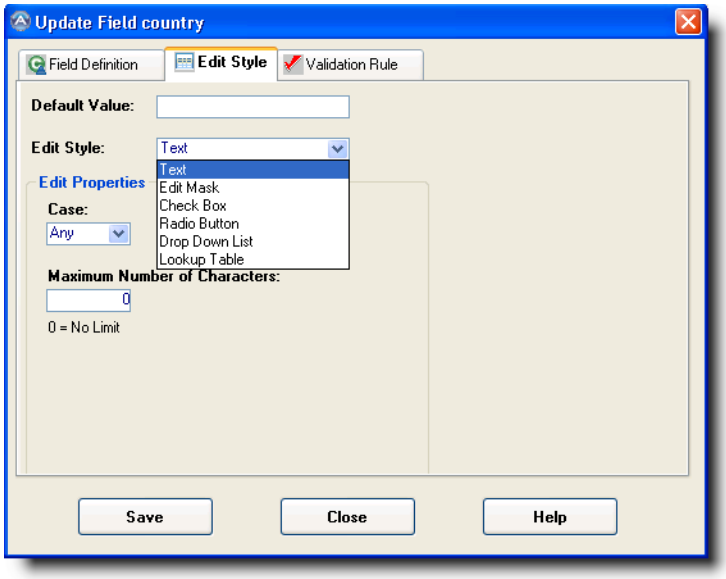


Figure 17-3: Update Field - Edit Style Tab

2. The Default Value indicates a value to automatically assign to a field whenever a user adds a new record. For example, your store master might have a status field to indicate if a store is New (N), Open (O), or Closed (C). When a user adds a new store record to the table, you might want to initialize the status field to N for New.

3. Select an edit style from the drop down list. This option can be used to control what a user enters in a field and it can also make it easier to edit the field. For example, you can provide a re-defined list for the user to select from instead of the user entering in incorrect information. Each edit style has its own properties that you define on this tab. The available edit styles are:

> The Edit Properties option changes depending on which Edit Style you select from the drop down list.

Option	Description
Text	The text edit style allows the user to enter a free-form value into the field. The following properties can be specified to control what the user is able to enter: **Case** This indicates whether the text that is entered will be in upper or lower case. If you choose “Any”, the user will be able to enter both upper and lower case characters. Maximum Number of Characters This specifies how many characters can be typed in this field. For example, if a field is used to hold a two character state abbreviation you would set this to 2. If a user tries to type past the 2-character limit, no additional characters will be entered in the field. In many cases you might use this limitation because of the size of the field in the database. For example, if manager_name was defined as a 25 character field in the database, you should set the maximum number of characters allowed to 25 because any characters entered beyond this limit would not be saved and might also cause you to get a database error when saving your changes. If you are defining a text edit for a character field and are unsure of the size of the field, check the DB Column Size field on the Field Definition tab. If you imported the field definitions for this table from the database will show the actual size of the field. If you do not want to limit the number of characters a user can enter, use 0 for the limit. You may want to do this if a database field was defined as a text or long varchar data type.

Option	Description
Edit Mask	An edit mask can be used to force a user to enter data into a field in a specified format. This is done by specifying edit mask symbols that indicate what can be entered in each character position. The symbols vary depending on the data type of the field (numeric, character, or date/ datetime). For each data type you are given list of common edit masks to choose from in a drop down list along with a description of the available symbols. If you don't see the mask that you want in the drop down list, you can create one from the available symbols. Edit masks can transform data (for example, convert upper case typing to lower case) and they can prevent users from entering certain characters. They can also be used to display punctuation marks and other characters that are not actually stored in the database. See page 39 for a list of common edit masks for data types and how it impacts what the user enters and how it will be stored in the database.
Check Box	A check box edit style is useful if a field has only 2 values, such as YES or NO, Y or N, 1 or 0, OPEN or CLOSED, etc. For example, you might have a field in your store master called CCTV which indicates whether or not the store has a closed-circuit TV system. The values for this field would be Y (has CCTV) and N (does not have it). You could define a check box edit so that the field has a Y in it when a user checks the box and an N when a user un-checks the box. Visually, users know that a store has CCTV if the box for that store is checked.
Radio Button	A radio button edits style allows you to pick a single value from a group of values by clicking on a button. To define a radio button edit, just define the text to display next to each button and the value to store in the database if that button is selected. You can use the Add, Insert, and Delete buttons to add or remove text/value pairs. Add will add a new pair at the end of the list while Insert will add a new pair ahead of the pair where the cursor is. The radio buttons will be displayed in the order that you define here. Radio buttons are displayed across the column, so if you have a lot of values to choose from (more than 3 or 4) this may not be a good edit style for the field. You might instead want to use a drop down list, which easily accommodates many choices in a small space.

Option	Description
Drop Down List	A drop down list edit style allows you to pick a single value from a group of values by clicking on an arrow and picking from the list that is then displayed. A drop down list is defined much like a radio button - just enter the text to display to the user in the list and the value to store in the database if that text is selected. You can use the Add, Insert, and Delete buttons to add or remove text/value pairs. Add will add a new pair at the end of the list while Insert will add a new pair ahead of the pair where the cursor is. The list will be displayed in the order that you define here.
Look-Up Table	A lookup table edit style allows you to pick a table to look up values in. You then specify which field in the table you want to look up, and then which table to display from the lookup table. For example, the state field from the storemst table is a lookup table edit style. The state value will be passed to the state_cd field in the xbr_mst_states tables and display the state name. When the Block for the storemst table is opened, you will be able to change the state by selecting from the drop down menu.

Each of the edit styles can accept character, numeric, or date/datetime information, however certain styles can be used to make sure that a user enters the appropriate data type. The available styles are described in the Validation Rule section on page 13.

Validation Rule Tab

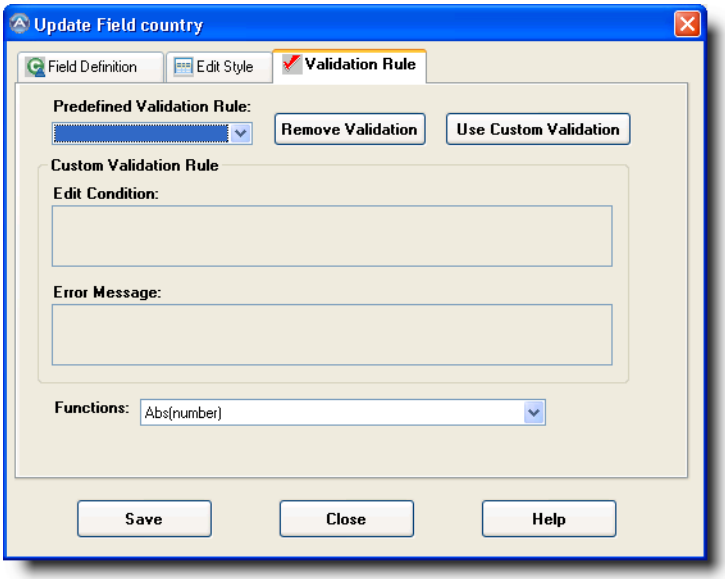


Figure 17-4: Update Field - Validation Rule Tab

1. Click the Validation Rule tab. Validation rules are used to validate data entered by a user in a field. These rules are expressed using programming language functions. These can be used, for example, to make sure that a field is not empty or to make sure that a date does not fall after a specific date.
   - To add a validation rule to a field, you can pick a predefined rule from the drop down list provided (XBR table Editor allows you to define common rules that may be used across several fields). If you pick a predefined rule, the syntax and error message for the rule will be displayed.
   - You can tweak an existing validation rule rather than starting from scratch; you can pick a predefined rule then click the Use Custom Validation button. This will remove the predefined rule name from the drop down box but leave the syntax and error message for you to change.
   - To create a unique validation rule for this field, click the Use Custom Validation button. This allows you access to the Edit Condition box where you can define the syntax for the rule and the Error Message box where you can define a message to be displayed if the rule is violated. Please note that the error message is treated as a character expression and must be enclosed in single quotes.
   - The drop down list of Functions shows many of the functions that you can use to create validation rules. If you select a function from the list it will be pasted into the Edit Condition or Error Message box at the last cursor position.
   - If you want to remove a validation rule from a field, click the **Remove Validation** button.
2. Click the **Save** button. You are brought back to the Update Table dialog box.
3. Click the **Close** button. In order to access the table to input, edit and view data you must create a Block and display it on a tab in Table Editor. See Defining Blocks page 14 for details.

Defining Blocks

The Block Maintenance window allows you to access and maintain Block definitions. You can add, update, and delete Blocks from this list and you can also modify a Block's description and mark it as active or inactive. Double click the Block name you would like to open and make changes. Click the New icon to create a new Block. The Block Definition window will display where you can define all aspects of a Block including the fields to edit and Block security.

Block Definition Tab

1. Select the **Administration -> Blocks** from the menu bar. The Block Maintenance dialog box displays.

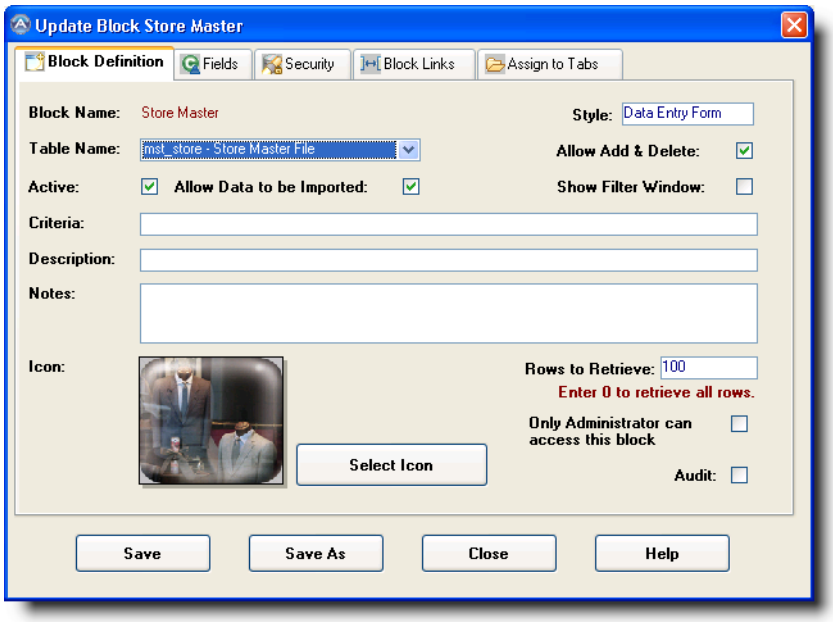


Figure 17-5: Update Block - Block Definition Tab

2. Click the New icon to define a new Block or double click a Block name listed to edit existing Block options. The Block Definition dialog box displays either way.

Option	Description
Block Name	This is a short descriptive name for the Block (up to 30 characters). This can only be entered when adding a new Block definition. It cannot be changed once the Block definition has been saved.

Option	Description
Table Name	This is the name of the table that you will be maintaining through this Block. Only tables that have been defined to the Table Editor will be in the drop down list. If you don't see the table you are looking for, you can add it through the Table Maintenance window. If you change the table name in an existing Block that you are updating, you will be asked to confirm this change. Blocks can only edit fields from one table, so if you change the table all fields that are currently in the Block will be removed.
Style	Select how the data will be displayed. Data Entry form, spreadsheet grid style or a fixed column style. The Data entry form allows users to enter data in a form format. The fixed column style provides a more attractive display while the spreadsheet grid style allows you to resize and move columns.
Active	Indicates if the Block is active (checked) or inactive (unchecked). If you make a Block inactive it will not display on any user's Block selector window until you re-activate it.
Allow Add and Delete	Check this option if you want users to be able to add and delete records when in this Block. If you are going to allow users to add records, they must be able to enter all key and required fields for the record. For example, if your store master table is keyed by division number and store number then you must be able to enter these values in order to add a new store record.
Allow Data to be Imported	Check this option if you are going to use this Block to import records into the table from an external file. As with the add option, you will need to make sure that the Block (and the external file) contains all key and required fields for the table and that these fields are updateable in the Block. You will also need to arrange the fields in the Block so that they are in the same order as the fields in the external file.
Show Filter Window	Check this option if you want to filter the data before displaying the report.
Criteria	This allows you to specify criteria to limit the data retrieved by the Block all the time. Unlike the Filter option.
Description	A short description of the Block.

Option	Description
Notes	Allows you to enter any descriptive notes for the Block. Users can view these notes when they right click on the icon for this Block on the Block selector window.
Icon	Click the Select Icon button to pick a .bmp file to use as an icon for this Block. This is the icon that will display on the Block selector window. The Table Editor comes with a number of .bmp files you can choose from. These files must reside in the directory pointed to by the IconPath entry in your tbledit.ini file (usually the picts subdirectory under the Table Editor working directory).
Rows to Retrieve	Enter 0 to retrieve all the rows or enter a number to limit the number of rows.
Only Administrators Can Access This Block	Check this option if you only want a person with Administrator rights to have access to this Block.
Audit	Check this option to keep track of any changes made to the current Block. All the changes will be saved in the TBL_AUDIT_TRAIL table. Once this is turned on it cannot be turned off. See page 40 for details.

Adding Fields To a Block

The Fields tab displays all of the fields in the table you have selected for this Block in the Available Fields list.

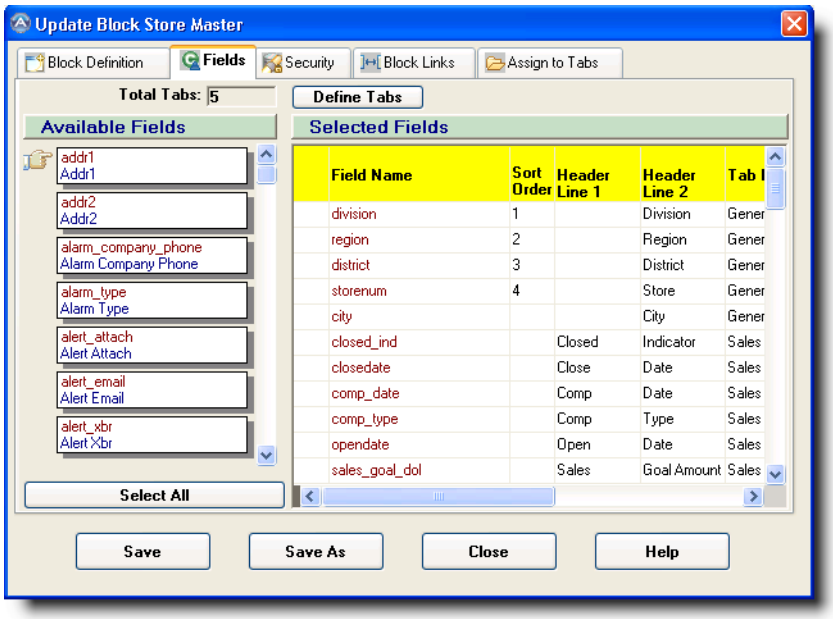


Figure 17-6: Update Block - Fields Tab

Add a Field To A Block

Click and drag the field from the Available Fields list to the Selected Fields list.

- The Select All button will assign all of the fields in the table to the Block.

To remove a field from the Block

Click and drag it from the Selected Fields list to the Available Fields list.

You can specify the following options for the fields you have added to the Block:

Option	Description
Sort Order	This indicates the order that rows will be sorted reading down the listing from top to bottom. This field is entered as a number along with A or D to indicate ascending or descending sort order. If you enter a number only, ascending order is assumed. For example, Region = 1, Store = 2D would sort in ascending region number order and then in descending store number order within each region.
Header Line 1 and Header Line 2	Allows you to enter a descriptive heading for the field. Each heading consists of a two line description with each line allowing up to 30 characters. Any letter or number, #, $, %, &, or space can be used in the headings. This is defaulted from the field definition but you can override it here.
Tab Name	If the Style of the Block is defined as a Data Entry Form this column will get filled in automatically. Otherwise this field will be blank for the defined Styles Spreadsheet Grid and Fixed Column.
Column Order	This is the order that the column will appear, reading from left to right across the listing. Column order is defaulted to the current row number whenever you add a new field.
Column Width	This sets the width of the column as it will be displayed in the Block listing. This is not the same as the database column size as required by the DBMS. If a long field, like store address, is being cut off in your listing, increase its width. This is defaulted from the field definition but you can override it here.
Blank If Repeating	If you check this option, values for the corresponding field will be displayed the first time they occur in the sort order but will then be left blank until the value changes. For example, in a listing sorted by Region, District, and Store, if this option is chosen for Region, you will see 01 in the region column on the first line of the listing; this column will remain empty until Region changes to 02.

Option	Description
Prompt For Criteria	Use this option to check off all the fields in the Block that you want to specify values for when the query is run. For example, if Prompt For Criteria is selected for Region, when you run the Block query, a window will appear in which you can enter values for region. If you enter 01, the Block will only pull information for region 01. If you enter >01, only regions with a number greater than 01 will be displayed. If you enter <> 03, all regions except 03 will be pulled. If you enter 01 on the first line in the window and 02 on the second line, only regions 01 and 02 will be queried. Multiple fields can be included in this prompt window. For example, you could limit the Block to specific region/district combinations or specific districts within a specified date range. **NOTE**: Unlike the Criteria option on the Block Definition tab, prompt for criteria cannot be used to restrict users to seeing only specific records in a table. It is used instead to help users narrow the range of information they are editing. Using a goal by day table as an example, you could specify criteria to limit a user to specific stores. You could then specify the prompt for criteria option for goal date so that users can pull up their stores for just one date.
Editable	Check this option if you want users to be able to edit this field in this Block. You may want to include some fields in the Block that are not editable for identification purposes. For example, in your LP Fields Block you want your LP staff to only edit LP-related fields in the store master. You also need to show them the store number, city, and state so that they know which store each record is for, but you do not want them to be able to change these fields.
Total Tabs	Displays how many Tabs there are within the Block
Define Tabs button	This option is only available if you choose Data Entry form on the Block Definition tab. You can name the tab, decide which fields will display on which tab, choose an icon and set up the form on how it will display. See page 41 for more information.

Block Security

The Security tab allows you to grant access to users. No one (not even the owner) can edit a Block until they have been given access on this tab. The Select All button allows you to assign all users to the Block. The Available Users list shows all users who have been given an XBR user profile. Drag and drop users from the Available Users list to the Selected Users list to give them access to this Block. You can remove users from this Block by dragging them from the Selected Users list to the Available Users list. Select Enable to allow the user to view the Block, select Add/Delete to allow the user to be able to add and delete data from Block.

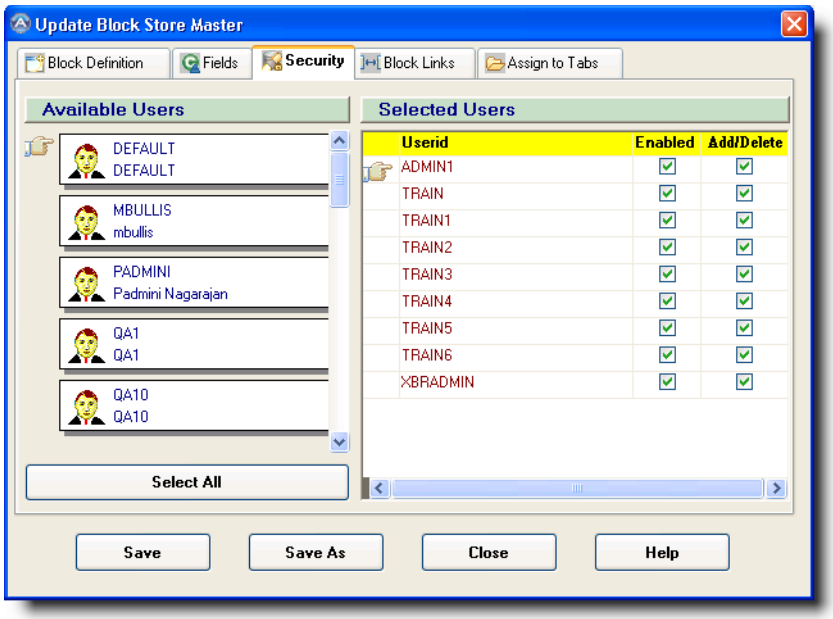


Figure 17-7: Update Block - Security Tab

Block Link

The Block Link tab allows you to create links between Blocks. You can create a link between Blocks as long as they have at least one common field. Linking Blocks is similar to creating links between queries in Analytics.

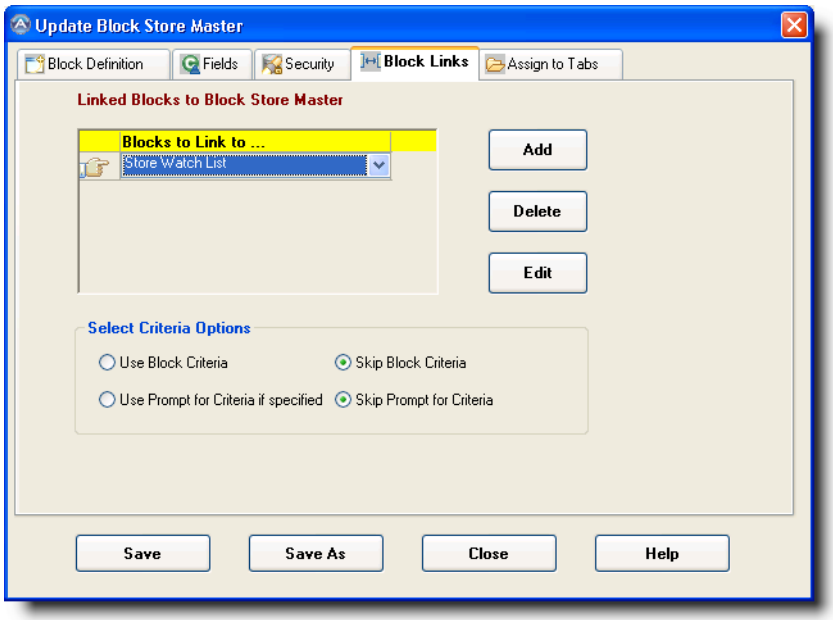


Figure 17-8: Update Block - Block Links Tab

1. On the Block link tab click the **Add** button.

2. Select the Block you want to link to from the Blocks to Link to drop down list. The Field Link dialog box will display.

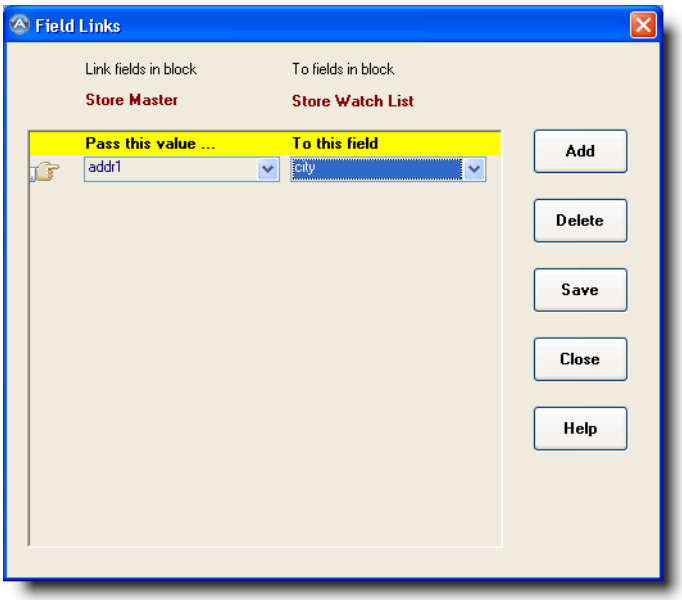


Figure 17-9: Field Links Dialog Box

3. From the Fields window select the corresponding fields from each Block to link on. They must be the same field from each but may be named slightly different.
4. Click the **Save** button.
5. Click the **Close** button.
6. Choose the Select Criteria option that corresponds to how you want the link to work.

   Select either **Use Block Criteria** or **Skip Block Criteria** - When the Use Block Criteria option is selected, the system will use the criteria associated with the Block as well as the data from the linked fields. Otherwise, only the criteria associated with the linked fields will be used.

   Select **Use Prompt for Criteria** if specified or Skip Block Criteria - When the Use Prompt option is selected; you will be prompted for criteria before the Block is retrieved if the Block is set up to prompt.
7. Click the **Save** button.
8. Click the **Close** button.

Assign Blocks to Tabs

The Assign To Tab allows you to display Blocks on tabs within Table Editor. You may want to access a Block from various tabs. You can also assign Blocks to tabs within the Updated tabs dialog box on the Blocks tab, see page 20 for more information.

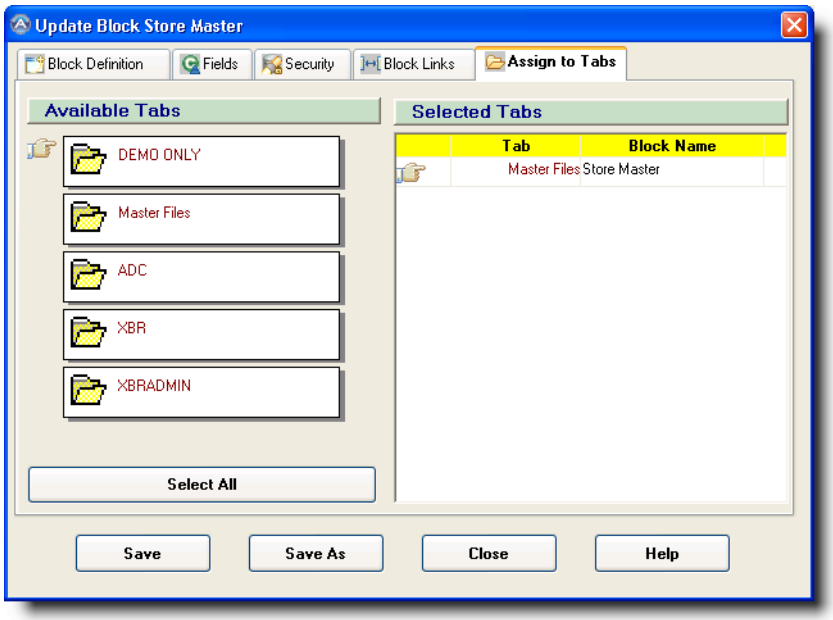


Figure 17-10: Update Block - Assign To Tabs Tab

On the Assign to Tabs tab click and drag from the Available Tabs list to the Selected Tabs list.

Blocks can be assigned to several different tabs, but if a user is not assigned to the Block, the Block will not show up on the Block selector window. Also, if users are assigned to Blocks, but not assigned to the tab, then they will not be able to access the Blocks since the tab will not display. See Block Security page 19 and Tab Security page 24 for more information.

Copying Blocks

To copy a Block, use the **Save As** button at the bottom of the Block Definition dialog box. You will be prompted to type the name of the copied Block.

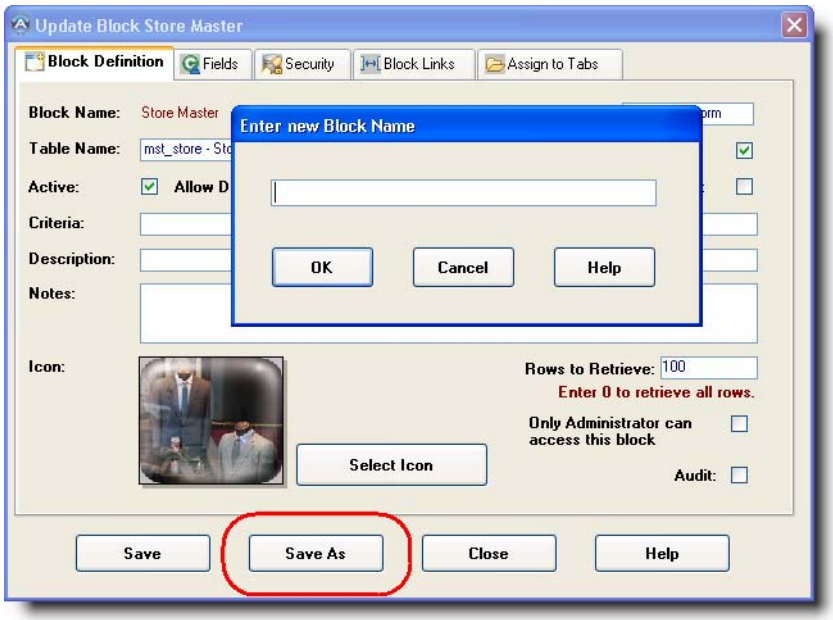


Figure 17-11: Copy a Block

You may want to create multiple copies of a Block if you have multiple employees who are responsible for a separate group of records. For example, if each Regional LP Manager is responsible for LP fields being maintained for their own Regions, you could create an “LP Fields” Block for each Region (“Region 1 LP Fields”, “Region 2 LP Fields”, etc.). The only difference between the Blocks would be the criteria used on the Block Definition Tab in the Criteria field to limit the data retrieved to be only the appropriate Region for each Regional Manager and the Security Tab to allow access to the specific Block for their Region.

Defining Tabs

Tabs on the *Select a Block* window allow you to organize Blocks. The Tab Maintenance dialog box allows you to access and maintain tab definitions. You can add, update, and delete tabs from this list and you can also modify a tab’s description and mark it as active or inactive from this list. If you click New or Open, you will open the Update Tab window where you can define all aspects of a tab including the Blocks assigned to it and Tab security.

To define tabs select the Administration, Tabs option from the menu. The Tab Maintenance dialog box displays.

Option	Description
Tab Name	This is a short descriptive name for the tab (up to 30 characters). This can be changed once it has been saved. You can change it from this screen as well as the Tab List screen.
Tab Order	This is order that the tabs will display on the screen.
Description	Type a short description for the tab.
Active	Indicates if the tab is active (checked) or inactive (unchecked). If you make a tab inactive it will not display on any user's Block selector window until you re-activate it.

Create a New Tab and Edit Existing Tabs

A way to organize Blocks is to group similar Blocks together on a Tab. Remember no one (not even the person who created the Block) will be able to see or edit a Block until it has been assigned to a tab. Likewise, if a Block has been assigned to a tab and a user has not been given permission to view the tab, then that Block will not show up on the Block Selector window.

1. Select the **Administration -> Tabs** from the menu.

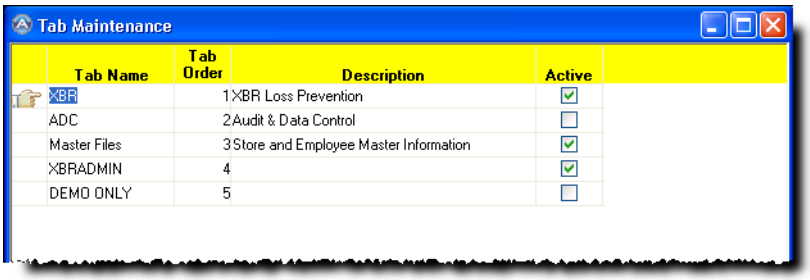


Figure 17-12: Tab Maintenance

2. Double click a Tab name to edit Tab definition or click the **New** button to create a new tab.

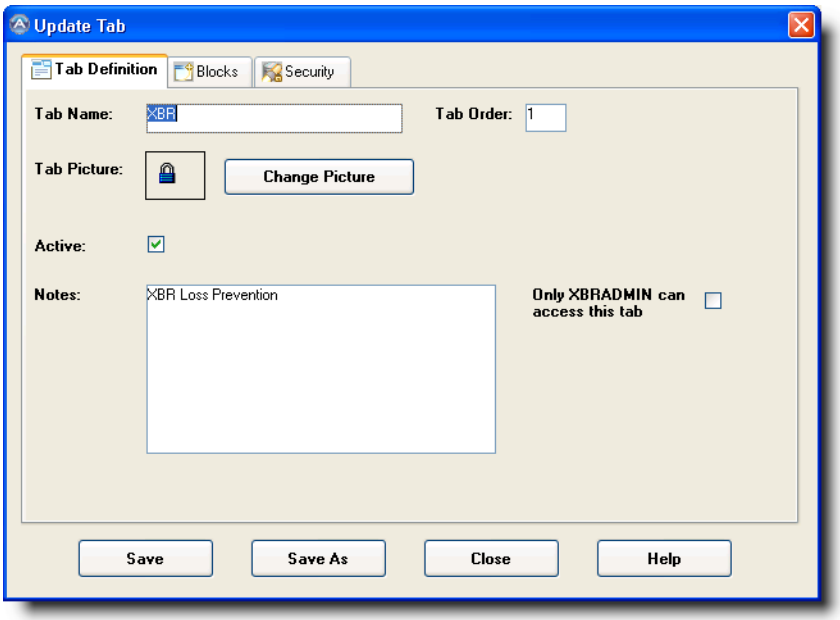


Figure 17-13: Update Tab - Tab Definition Tab

3. On the Tab Definition tab enter a Tab name if you are creating a new Tab. Edit fields if you are updating a tab.

Option	Description
Tab Name	Type a name for the tab. The name will display on the tab.
Tab Order	The position of the tab within the other existing tabs.
Tab Picture	Click the Change Picture button to pick an .icon file to use as an icon for this tab. This is the icon that will display on the Block selector window. The Table Editor comes with a number of .ico files that you can choose from. These files must reside in the directory pointed to by the IconPath entry in your tbledit.ini file (usually the picts subdirectory under the Table Editor working directory).
Active	Check Active if the tab should be displayed.
Notes	Type a descriptive note for the tab.
Only XBRADMIN can access this tab	Check this if you are the XBRADMIN. Only the XBRADMIN login id can access this tab. This login is only for Micros-Retail Technical personnel. It is issued when setting up Table Editor.

Assign Blocks to Tabs

On the Blocks tab the Available Blocks list shows all Blocks that are available. Drag a Block from the Available Blocks list to the Selected Tab list to add the Block to this tab. You can remove Blocks from the tab by dragging them from the Selected Tab list to the Available Blocks list.

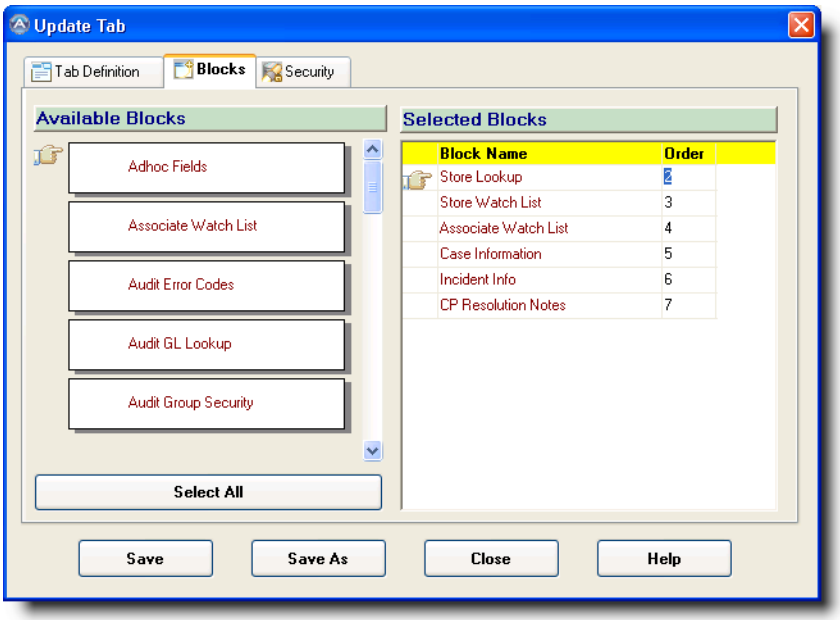


Figure 17-14: Update Tab - Blocks Tab

Blocks can be assigned to several different tabs, but if a user is not assigned to the Block, then that Block would not show up on the Block selector window. Also, if users are assigned to Blocks, but not assigned to the tab, then they will not be able to access the Blocks since the tab would not show.

Security for Tabs

The Security tab allows you to grant access to a tab. No one (not even the person who created it) can edit a view a tab until they have been given access on this tab. The Select All button assigns all of the users to the tab.

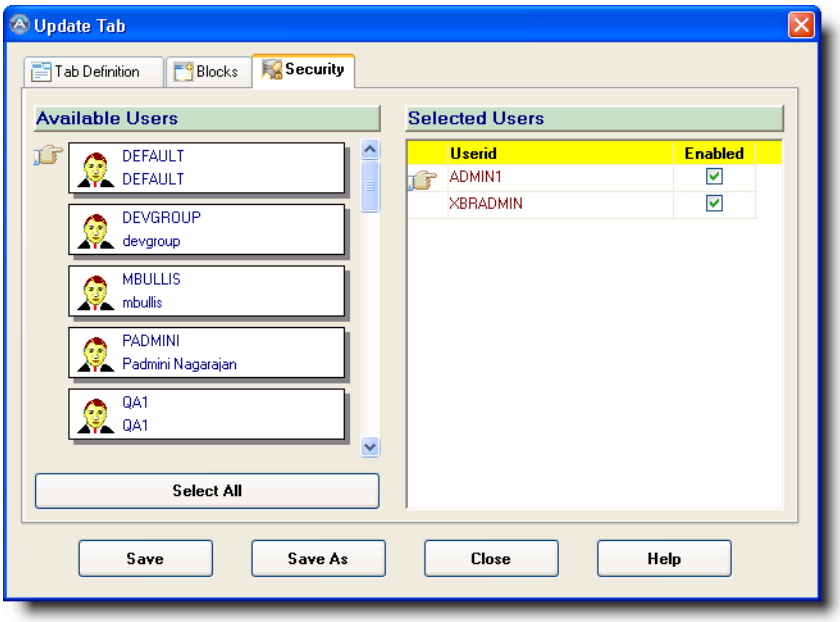


Figure 17-15: Update Tab - Security Tab

The Available Users list shows all users who have been given an XBR user profile. Drag a user from the Available Users list to the Selected Users list to give them access to this tab. You can remove users from this tab by dragging them from the Selected Users list to the Available Users list. You can also keep a user from accessing this tab by de-selecting the Enabled check box.

If a user is not in the Selected Users list or the Enabled field is not checked, the tab will not appear on the user's Block Selector window.

Defining Common Validation Rules

To define validation rules that can be used to verify what a user enters in a field, choose Validation Rules from the Administration menu.

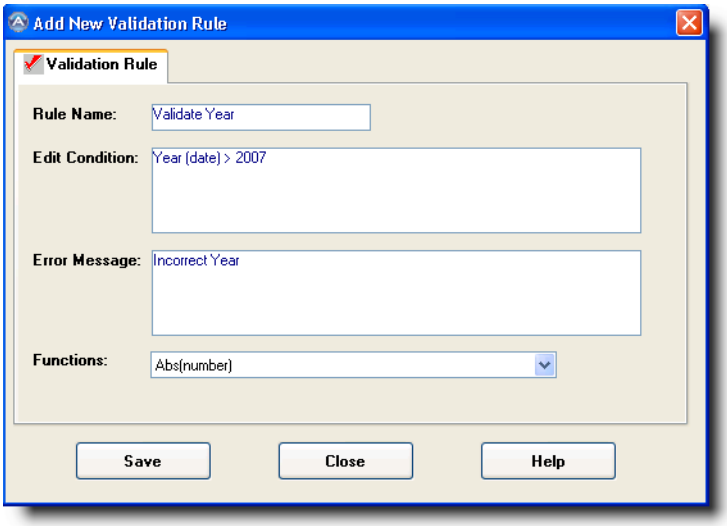


Figure 17-16: Add New Validation Rule

The Validation Rules window allows you to access and maintain validation rules. You can update and delete rules directly from this list. If you click New or Open, you will open the validation rule definition window where you can define new rules. This window also gives you more space for defining the rule along with a drop down list of available functions.

To define a validation rule, fill in the following information:

Option	Description
Rule Name	This is a short descriptive name for the rule (up to 30 characters). This can only be entered when creating a new rule definition. It cannot be changed once the definition has been saved.
Edit Condition	This is the condition that must be true in order for the data in this field to be considered valid. If the data entered by the user meets this condition it will be accepted and can be updated in the database. If not, the system will display the error message defined below and the user will have to fix what they entered. Conditions are specified using programming language functions similar to those used in XBR Track's report calc fields. The drop down list of Functions shows many of the functions that you can use to create validation rules. If you select a function from the list it will be pasted into the Edit Condition or Error Message box at the last cursor position. See the Appendix page 43 for examples.

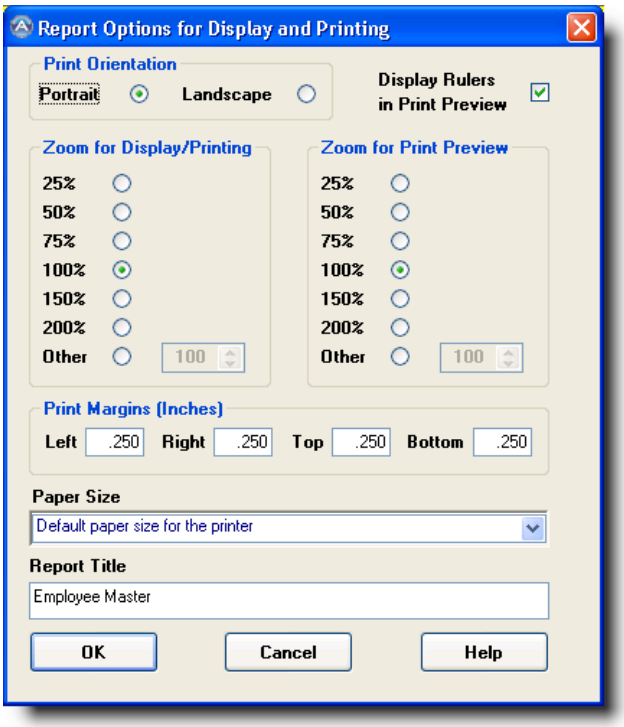
Option	Description
Tab Picture	Click the Change Picture button to pick an .icon file to use as an icon for this tab. This is the icon that will display on the Block selector window. The Table Editor comes with a number of .ico files that you can choose from. These files must reside in the directory pointed to by the IconPath entry in your tbledit.ini file (usually the picts subdirectory under the Table Editor working directory).
Error Message	This is the message that you want to show a user if invalid data is entered. The system treats this message as a character expression, so it must be enclosed in single quotes. The error message can also take advantage of functions. For example, let's say a user enters "02/31/99" in a field where you are checking for the entry to be a valid date. The error message: GetText() + ' is not a valid date. "02/31/99 is not a valid date please re-enter a valid date" would display
Function	List of available functions that can be used. Select a function; it will be placed where your cursor is. See the Appendix page 43 for examples. 25

Printing From The Block Editor Window

Before printing query results, users should consider the print options that are available via the Options button from the Windows toolbar. It is also recommended that users select the Print Preview mode to gain a clear visual as to how the results will be displayed on a sheet of paper.

The **Options** button allows you access to preferences such as:

- Portrait or Landscape
- Margin Settings
- Type a custom Report Title
- Increase or decrease the size of the query for display and printing
- Increase or decrease the size of a query in print preview



- Remember to change the Report Title before printing if you have re-sorted or filtered your query results. These features can change the focus of the query and it is helpful to print a Query Title that reflects the actual content.
- To save any printing options you have modified (such as orientation or zoom), select Options, Save Options from the main System menu. This saves your customized print settings for your unique User ID only.
- Changing report titles in the Options section is a temporary change. When you re-run the query, its original title reappears. Therefore saving options does not include saving the new report title.

Print Preview

The **Print Preview** button displays the current query results in Print Preview mode, and shows how a query will appear as a printed copy. Click the button again to exit Print Preview mode.

- This option is necessary in order to select the current page or a range of pages option in the Print window.
- Unless you are in Print Preview mode you cannot select specific pages to print because page lengths are calculated differently for the printer than for the on-screen display. Print Preview will resize the document to printed pages.

Print

The **Print** button will display the Print dialog box.

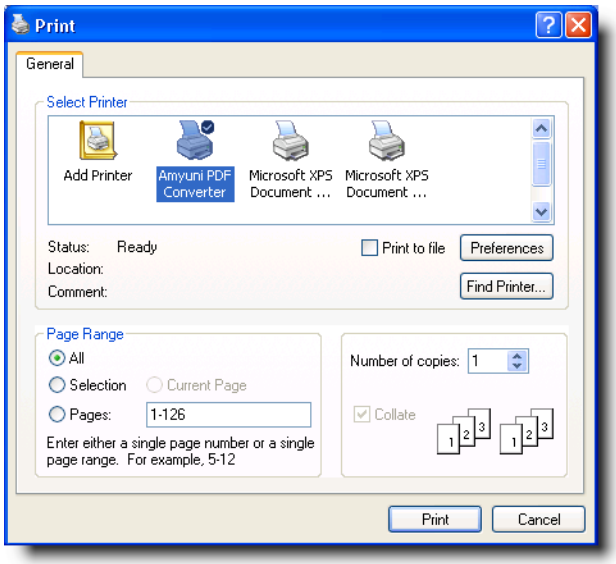


Figure 17-17: Print Dialog Box

Print Option	Description
Copies	Enter the number of copies to print.
Page Range	Print all pages, only the current page, or selected pages. **Users must be in Print Preview mode to use this option**
Print	Print all pages in the range or only the odd or even numbered pages.
Print to File	Send output to a printer or a file. If Print to File is selected, you will be prompted for a filename and will need to specify the directory where you want the file saved.
Collate Copies	Collate pages if you are printing multiple copies. 27

Exporting

Exporting allows users to save query results permanently until the file is manually deleted. This feature is a resourceful tool because it allows users to permanently retain Adhoc and Drill Down results without having to re-run a query.

The **Export** button exports a query to various file formats. Exporting query results allows the users to view information without having to log in to XBR. There are TWO ways to export:

Choose Standard Export to save a query in one of the following formats:

- Analytics Report (PSR)
- Adobe Acrobat (PDF)
- Comma Separated Values
- dBase
- Lotus 1-2-3
- Microsoft Excel
- Tab-separated columns
- Text with HTML formatting

Choose **Custom Export** when you need to select field delimiters, end of line markers, and quotes enclosing fields. This is useful if you are creating a feed to another system that has specific formatting requirements.

Exporting A Query:

1. When viewing query results, click the **Export** button.

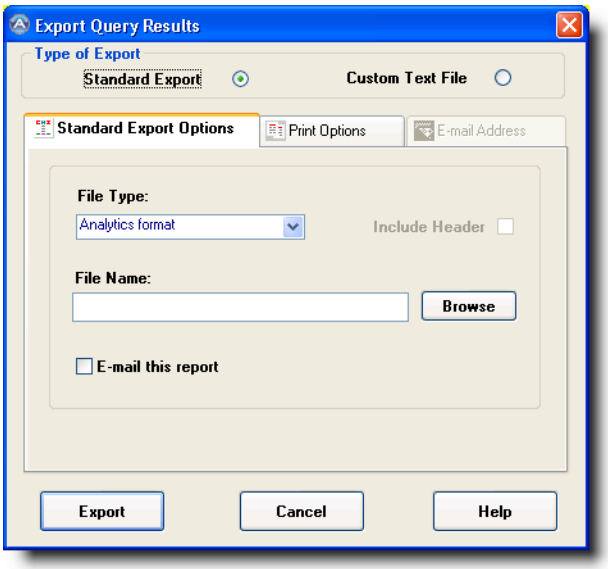


Figure 17-18: Standard Export

2. Select **Standard Export**.
3. Select a desired **File Type** from the drop down list.

4. **[OPTIONAL]** For some file types, check the Include Header option if you would like to include column headings. This is highly recommended for spreadsheet file types like Excel and Lotus.

> If the Include Header option is dimmed, the column Headings will automatically be exported.

5. Click the **Browse** button to select a location to save the exported report and type a name for the file.
6. **[OPTIONAL]** Select E-Mail this report to be able to add email address on the Email Address tab. See Email on the fly page 32 for details.
7. (Optional) Select Include Query Filter Display to have the selected criteria and parameters and any filters that were applied to the query print out on the exported report.

> Query Filter Display option is only available if the file type is PSR, PDF or HTML.

8. **[OPTIONAL]** Click the Print Options tab and then indicate the Zoom Percentage and Page Orientation of your exported query.
9. Click the **Export** button.

Helpful Hints

- Information that is exported is saved independently of XBR.
- The ability to link to other queries or to drill downs is not available for exported queries.
- Exporting is a time saver -especially for your remote dial-in users. Users can send other users an export of the query results rather than re-running the query.
- It is recommended that users make a note to help remember the drive and folder the exported query was saved to.
- Query Filter Display options will show up in the following formats: Analytics (PSR), PDF and HTML.

Exporting Various Query Features

A check (..) in the chart below indicates the file formats that will retain various Query features.

	Report Calc	Subtotals & Totals	Graphs	Lookups	Hidden Columns	Query Filters Applied
Analytics (PSR)	✓	✓	✓	✓		✓
Adobe Acrobat (PDF)	✓	✓	✓	✓		✓
HTML	✓	✓		✓	✓	✓

	Report Calc	Subtotals & Totals	Graphs	Lookups	Hidden Columns	Query Filters Applied
Custom Text	✓	✓		✓	✓	
Workbook / Spreadsheet					✓	

- Report calculation fields, such as a Trans Day (i.e. Monday) or Percent Contribution will not export to all file formats. If some report columns are not showing up in the export file, they are probably report calculations, which do not export in all file types.
- Report calculations will appear in exported PSR, Adobe Acrobat, HTML or Custom Text file types.
- If possible, change the fields in the query from report calculations to computations using database fields so they will be exported.
- If you really need a report calc in a format that will not export it, you can use a Custom Text File as an intermediate file. For example, if the field is required in a spreadsheet, you can export to a custom text file and then import that file into your spreadsheet software.
- When exporting a graph to HTML, comma separated values, or a spreadsheet format, the data behind the graph is exported.

Exporting to a Custom Format

This option lets you create a text file with your choice of options for field delimiters, end of line markers, and enclosing fields. This is useful if you are creating a feed to another system that has specific formatting requirements.

Export to a Custom Format

1. Click the **Export** button.

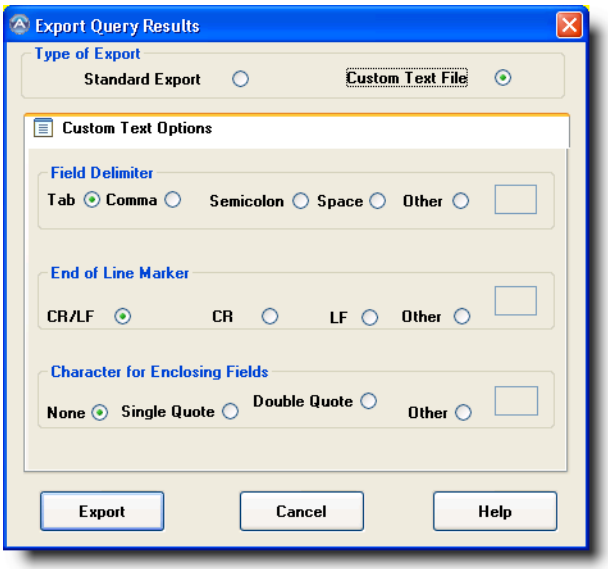


Figure 17-19: Custom Text File Export

2. Select the **Custom Text File** radio button.
3. Select a Field Delimiter character.
4. Select the End of Line Marker character.
5. Select the Characters for Enclosing Fields, if necessary.

The default characters listed in this dialog box are those most commonly used in text files. 31

E-Mail Queries On-the-Fly

Use the Export feature to e-mail queries on-the-fly to:

- XBR and Balance users
- A user-defined mailing list containing XBR users
- Any email address entered during the export process

Emailing exported queries allows users to share pertinent information right away with others in the organization whether they are Analytics users or not. There is no need to exit XBR in order to attach an exported query to an e-mail message; it is not necessary to launch your e-mail program for this process either. For example, users can use XBR to e-mail a Sales query to location managers on the fly or instantly send a regional manager information about an employee's suspicious activity.

How To E-Mail Exported Queries On-The-Fly

1. When viewing query results, click the **Export** button and select a File Type.
2. Check the E-mail this report option in the Export dialog box.

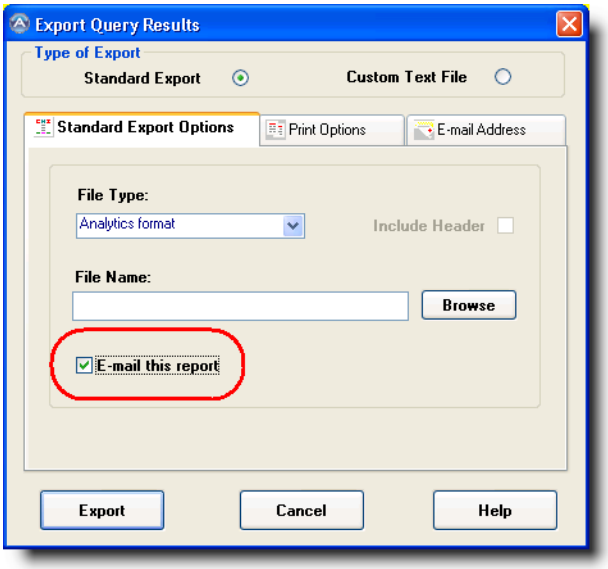


Figure 17-20: Email This Report

3. Select the E-mail Address tab, indicate the recipients by dragging and dropping User names or Group names from the Available Recipient box on the left to the Selected Recipients area on the right.

> If you would like to e-mail the query to someone who is not on the list, type the e-mail address in the Address area then click the **Add to List** button.

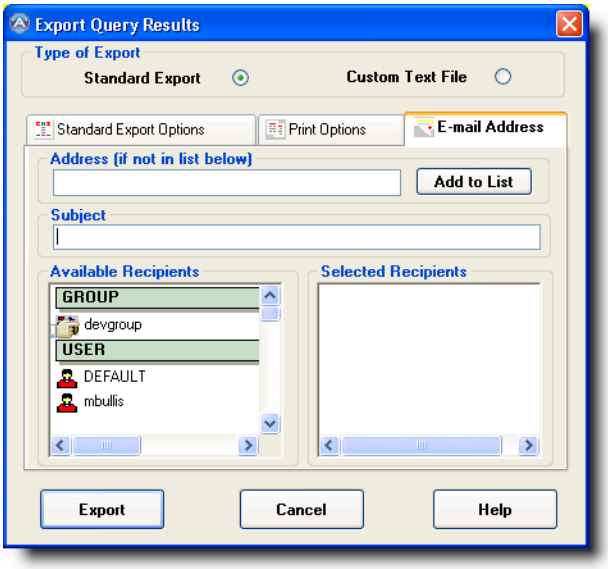


Figure 17-21: Export Query Results - Email Address Tab

4. Type a Subject for your message.
5. Click the **Email Note** button to add notes that will appear in the body of the e-mail message.
6. Click the **Save** button to return to the Export Query Results box.
7. Click the **Export** button. This will export the query results and send the e-mail message.

IMPORTING DATA

If you need to import data from another file use the Import feature within Table Editor.

> Import will only be available if the import option was specified for this Block. See page 14 for information.

To import data from a text or dBase file into the Block Editor window, choose **Import** from the Tools menu.

Type a filename to open in the File name field or pick one from the directory listing. If you want to look in a directory other than the one defaulted in the Look in field, you can change the directory using the standard Windows directory list dialog provided. You can import only the following two file types TXT or .DBF.

When you are importing a file, the fields in the file must be in the same order as the fields in the Block. More often than not you will create a special import Block that lines up with a particular file that you want to import.

Sorting Data

There are TWO common ways to SORT queries once you have run them.

- Click a column heading to sort a query by that column in ascending order (lowest to highest or A-Z). Click the column heading again to sort the query by that column in descending order (highest to lowest or Z-A). When you point to a column heading, the mouse pointer will change to the shape of a hand.
- To sort a query by multiple columns use the Sort button. A Sort dialog box displays the current sort order for the query. If you have not re-sorted your query yet, the default sort order displays.

How To Perform A Multiple Column Sort In A Query

1. Click the **Sort** button.

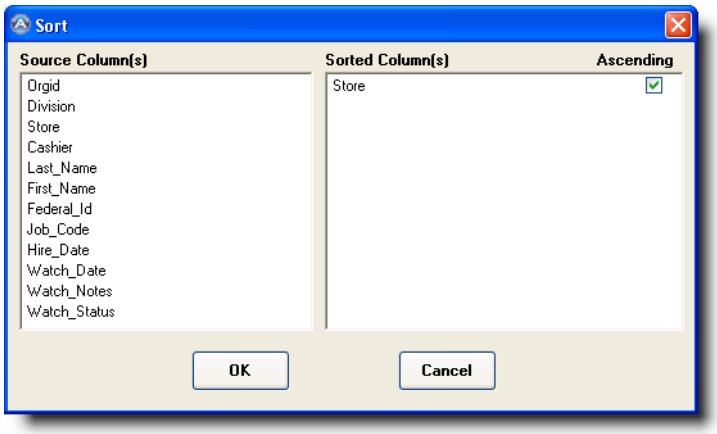


Figure 17-22: Sort

2. Drag the columns you want to use for sorting from the left, Source Column(s) area to the right, Sorted Column(s) area.
3. Click the **Ascending** check box to sort in ascending order or uncheck it to sort in descending order.
4. Click the **OK** button.
   - When you change the sort order using one of the methods mentioned above, you are making a temporary change. This sort order is applied until you either re-sort the query or close the query and re-run it.
   - The next time the query is run the default sort order is applied, which was determined when the query was built.
   - System Administrators can permanently modify the sort order of queries.

FILTERING DATA

Filtering allows users to focus on a specific portion of data. You can narrow down the results by only looking for specific data. The steps below show you how to create a filter using the Simple tab. See page 44 for information about the Advanced tab.

How To Create a Simple Filter

1. Click the **Filter** button. The Filter dialog box will display. See page 45 for a list of common filters that are used.

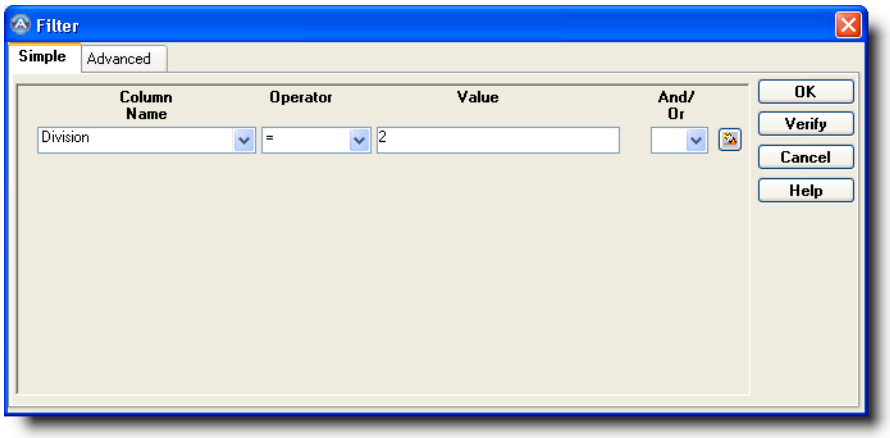


Figure 17-23: Simple Filter

2. Select a **Column Name** from the drop down list.
3. In the Operator area select an expression (=, <, >, >=, in, not in, etc.). See page 45 for a list of operators.
4. In the Value area, key-in the desired value(s).
5. **[OPTIONAL]** To add another filter, select either and or or.
6. **[OPTIONAL]** Repeat steps 2 – 4 to complete an additional filter.
7. Once you have added all necessary filters, click the **OK** button to display your changes.

Clearing a Filter

Once you have created a filter, you can easily re-display your entire query by clearing any existing filters. Click the **Filter** button then click the **Erase** button for each filter that has been created. Click the **OK** button.

Canceling a Query

You can Cancel a query from completely running when you mistakenly run a query. In some instances, you may want to cancel a query in mid-run because the results are accruing many rows of data and canceling the run is the only method of interrupting the process.

How To Cancel A Query

1. When running a query, wait until the Running Query dialog box appears.
2. Click the Cancel button. Notice how this window is counting the number of rows as they are being returned.
   - Any rows that were returned before the Cancel button was clicked, display in the lower left corner of the query window.
   - An icon appears in the lower, right corner of your screen to indicate that the current query did not completely run.
   - Once you have canceled a query you need to re-run it if you decide to display the entire query after all.

Tracking your XBR Results

Table Editor can be used to track internal theft, restitution, shoplifting, and accidents. The Table Editor has Blocks for Case and Incident Information. There is also a suite of queries in the Adhoc list that reports Case and Incident information that has been entered using Table Editor.

Basic Steps – Entering a Case

1. Double click the **Case Information** Block.
2. Click the **New** button on the Window toolbar.
3. Enter the appropriate information into each field. Store, Case Number and Case Date are required fields.
   - **a.** Use the Tab key to move from field to field.
   - **b.** Some fields have drop down menus. Choose an option from the menu. There are six tabs to help you organize your information.
4. Click the **Save** button.
5. Close the form.

Basic Steps – Entering an Incident

1. Double click the **Incident** Block.
2. Click the **New** button on the Window toolbar.

3. **[REQUIRED]** Enter the Store Number where the incident occurred.
4. **[REQUIRED]** Enter the Incident Date.
5. **[REQUIRED]** Enter a unique Incident Number.
6. Continue entering information about the incident. Notice there are three tabs to help you organize the data.
7. Click the **Save** button.
8. Close the form.

EDIT MASK TABLE

Edit Mask	Entered By User	Displayed in Field	Stored in Database
		NUMERIC	
####	10000	10000	10000
####	abcd	Not Allowed	Not Allowed
####	0		0
###0	0	0	0
#,##0	10000	10,000	10000
#,##0.00	10000	10,000.00	10000
#,##0.00	12345.99	12,345.99	12345.99
$#,##0.00	12345.99	$12,345.99	12345.99
##0.00%	50	50.00%	.5
0%	5	5%	.05
		CHARACTER	
XXXXX	Abcde	Abcde	Abcde
XXX	Abcde	Abc	Abc
!!!!!	Abcde	ABCDE	ABCDE
^^^	Abcde	abc	abc
!!^^^	AbCdE	ABcde	ABcde
#####	Abcde	Not Allowed	Not Allowed
###-##-####	023553214	023-55-3214	023553214
(###) ###-####	5084736900	(508) 473-6900	5084736900
(###) ###-####	(508) 473-6900	(508) 473-6900	5084736900
xxxxxxxxxxxxxx	(508) 473-6900	(508) 473-6900	(508) 473-6900
		DATETIME	
mm/dd/yy	010199	01/01/99	*

Edit Mask	Entered By User	Displayed in Field	Stored in Database
mm/dd/yy	014099	Not Allowed	Not Allowed
mm/dd/yyyy	01011999	01/01/1999	*
mmm. dd, yyyy	Jan011999	Jan. 01, 1999	*
hh:mm	1230	12:30	*
hh:mm	5599	Not Allowed	Not Allowed

***** The way that a date or datetime field is stored internally depends on the database being used. Check with your DBA for details.

AUDIT TRAIL

The Audit Trail option in the Block Definition window tracks all the changes made to the data in the Block. The changes are captured in a table – TBL_AUDIT_TRAIL. If your company wants to track changes to data within a Block you can turn on the Audit option. Be aware once you turn the option on you cannot turn it off. By default Audit Trail will be disabled and users can turn it on by clicking the Audit check box on the Block definition tab.

If a user inserts or deletes a record the data will be saved in the TBL_AUDIT_TRAIL table. When a user updates a record the application will save the updated column with the new and old values. For example if the value in column DEPT is changed from “HR” to “Personal” the audit trail will store it as DEPT = HR (Personal).

The Audit Trail will also store the date and time the record was changed and it will also store the name of the user who changed the record.

There is also an Audit Trail report window (Read-Only) where a user can access and see all the changes being made through Table Editor. The report can be accessed from the Tools menu by selecting Audit Trail.

Steps to Display the Audit Trail Report

1. Select **Tools -> Audit Trail**. A criteria box will display.
2. Select the Block or Table you want to display the audit trail for.
3. The report will display. The user will have the option to Export, Print, Sort and Filter the data.

Form Design

The **Define Tabs** button on the Block Fields tab allows you to organize fields on different tabs and format the fields for data entry use. You can add tabs and indicate which fields will display on which tab.

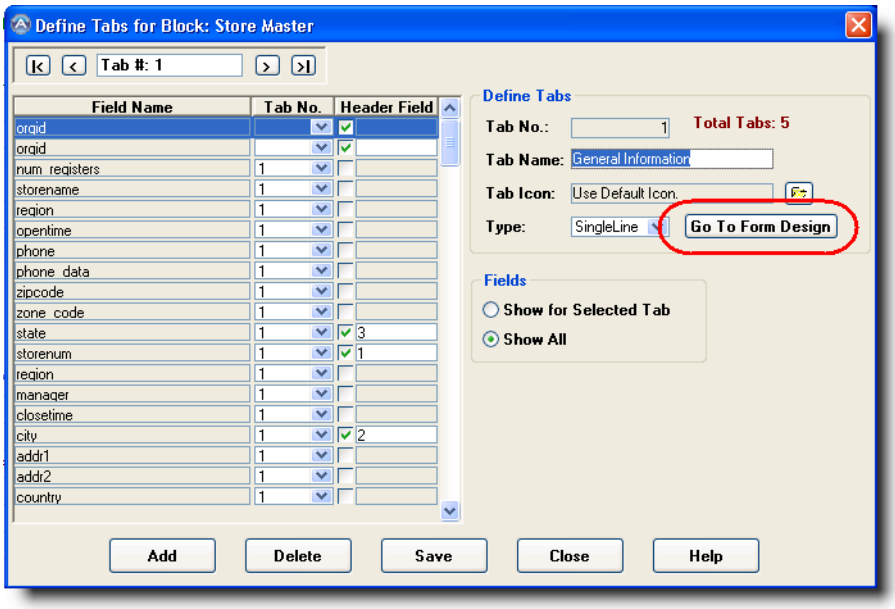


Figure 17-24: Go to Form Design

The **Go To Form Design** button displays the Define Forms for the Block currently in. Choose a tab from the Select Tab drop down list.

Once the form is displayed to format a field, right click on a field to display a shortcut menu where you can change the tab order, delete the field or change the properties. 41

Select Tab order displays the Set Tab Order dialog box. Within the form set the order starting with 0 that the user will move from field to field using the tab key.

Select Delete to delete the Field from the form.

Select Properties to display the Define Properties dialog box. This is where you can change the format of the field.

Edit Condition Examples

One function that will be used in almost every validation rule is GetText(). This returns the value that the user just typed in the field. Other functions can be used with GetText() to make sure the entry is valid. Following are some examples:

List of Functions

> GetText() always returns a character value, so you will need to use a conversion function such as Integer(), Real(), Date(), etc. if you are comparing what the user entered to another data type.

Len(Trim(GetText())) > 0	This makes sure that the field is not empty. Trim() removes all blanks from the entry. Len() is the length of the field. If the length of the field with all blanks removed is greater than 0, then some non-blank value was entered and the entry is valid.
Real(GetText()) > 0	This checks for a number greater than 0. The Real() function converts what the user typed from a character field to a number. Real() is used instead of the Integer() function because Integer() will not handle a number with a decimal point in it. If the number entered by the user is greater than 0, the entry is valid.
IsDate(GetText())	This verifies that the user's entry is a valid date. 2/31/99, abcd, 12345, etc. would fail.
IsNumber(GetText())	This verifies that the user entered a valid number. Abcd, / /, ?, etc. would fail.
Date(GetText()) < Today()	This verifies that the date entered by the user is less than today's date (i.e.: before today's date).
Pos(GetText(),'A',1) = 0	This would be used if you don't want the letter A in the entry. The Pos() function scans the entry beginning at position 1 looking for A. If it's not found, it returns 0 which means that the entry is valid.
Pos(GetText(),'ABC',1) > 0	This makes sure that the user typed ABC somewhere in the entry.

Building Advanced Filters

You can Filter data that displays on a query in order to hide rows on the query and display only those records you are interested in. Only data that meets the criteria of a filter appears on the query. If you had selected Top-level Reporting when you originally ran the query, the option will be active in the Filter dialog box. You can deactivate it at this time and create a new filter for all the data. Or you can leave it active and create a filter on the Top X records only. If you create a filter with the Top-level reporting active the application will first filter all the data based on the filter you created then it will apply the Top level reporting criteria within the filtered data. Note: The number of rows may exceed the number you entered in the Top-level Rows box.

How to Build Advanced Filters

1. To filter the results of a query, click the **Filter** button.
2. Select the **Advanced** tab.

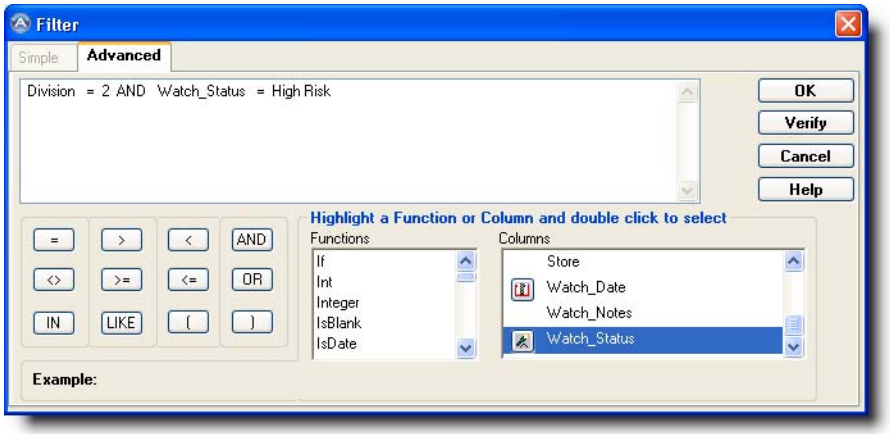


Figure 17-25: Advanced Filter

3. In the Columns area, double click the column name on which you would like to base your filter. It appears in the white text box.
4. Type an expression or click an expression button (=, <, >, >=, in, not in, etc.).
5. Type a value or values to finish the filter. If the field in the column area is a lookup field it will have a **Lookup** button next to it. Click once on this button to display appropriate options to select.
6. **[Optional]** To add another filter, type either and or or and repeat steps 3-5.
7. **[Optional]** Activate **Top Level Reporting**.
8. Once you have created all necessary filters, click the **OK** button.

Common Filters

This Filter....	Reports This Information:
Store number = 11	Store 11 only.
Store number in (4, 6, 39)	Stores 4, 6, and 39
Refund amount < -150	Refunds over $150.
Goal % > 5%	All Stores, regions, or districts that exceeded their goal dollars by more than 5%.
Trans Date > 10/01/08	Transactions after October 1, 2008.
Trans Time > 1300	Transactions after 1:00 pm.
Job Code = PT	Job Code field equals PT for Part Time.
Account Number Like 6011%	Account number starts with 6011.
Account Number Like %56%	Account number has 56 anywhere in the number.
Account Number Like %34	Account number ends in 34.

Operators Used In Filters

Operator	Description
<>	Not equal to
=	Equal to
<	Less than
<=	Less than or equal to
>	Greater than
45	Operator Description
>=	Greater than or equal to
IN ()	Used to list a group of valid values e.g. Store num in (1,5,7,8). Note that parentheses are used around multiple values.
Not In ()	Used to exclude a group of values e.g. Store num not in (2,3,4,6). Note that parentheses are used around multiple values.

Operator	Description
Between	Used to specify a range of valid values. e.g. Store num between 1 and 8.
Like	Used as a wild card to return similar values e.g. SKU like 123% would display all SKUs beginning with 123 and ending with anything.
Not Like	Used as a wild card to exclude similar values e.g. SKU not like 123% would return all SKUs that did not begin with 123.
And	Used to combine filters. Each row that appears on the query must meet the criteria of each filter combined with And. e.g. Refund_amount < - 50 and Store num = 16 would return all refunds greater than $50 that occurred in Store 16.
Or	Used to combine filters. Each row that appears on the query must meet the criteria of at least one filter combined with OR. e.g. Store num = 3 or Store num = 16 would return all rows from Store 3 and Store 16.

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