



Epicor Kinetic - Classic User Interface

Epicor SSRS Reporting

11.1

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Epicor SSRS Reporting

This course introduces Microsoft SQL Server Reporting Services (SSRS) reports and their implementation in Epicor ERP.

Microsoft SQL Server Reporting Services (SSRS) is a server-based reporting platform that provides comprehensive reporting functionality for generating reports from SQL Server databases.

For creating custom reports, the workshops in this course use Microsoft SQL Server Report Builder, which is a report authoring tool that allows the user to get started quickly in a Microsoft Office-like environment. To author more enhanced reports, you will use Microsoft SQL Server Data Tools, a report authoring environment that lets you create or edit Microsoft SQL Server Reporting Services reports in Microsoft Visual Studio.

Upon successful completion of this course, you will be able to:

- Use the SSRS Report Manager management tool and the Report Builder authoring tool to create custom reports.
- Add custom SSRS reports to the Epicor ERP application menu system and retrieve them for viewing.
- Edit an Epicor ERP shipped SSRS report.
- Create a BAQ report and then use the Report Builder authoring tool to design an SSRS report layout for the report.
- Create multiple BAQ report definition in Report Data Definition program and then using the Create SSRS Report feature of the Report Style Maintenance program to generate an .rdl file into SSRS as the starting point for designing the visual SSRS report.
- Create Electronic Report Files from BAQ report data definitions in the Electronic Report Maintenance program.

Before You Begin

Read this topic for information you should know in order to successfully complete this course.

Audience

Specific audiences will benefit from this course.

- System Administrator
- IT/Technical Staff
- Report Writers
- Business Analysts

Prerequisites

To complete the workshops in this course, the necessary modules must be licensed and operating in your training environment. For more information on the modules available, contact your Epicor Customer Account Manager. It is also important you understand the prerequisite knowledge contained in other valuable courses.

- **Foundations Agenda Courses on Epicor Learning Center** - These courses describe logging in to Epicor ERP, using menus and toolbars, working with Tree view and sheets. They give you a quick overview how to enter data in Epicor ERP, use searches to find data and work with grids. The courses in this agenda teach you to personalize your application, print forms and reports and use trackers to view information.
- **Recommended Industry Knowledge** -
 - Exposure to other reporting programs.
 - Knowledge of relational database concepts such as table relationships, records, and field types.
 - Understanding of the current release application functionality.

Environment Setup

The environment setup steps and potential workshop constraints must be reviewed in order to successfully complete the workshops in this course.

Your Epicor training environment, in which the Epicor demonstration database is found, enables you to experience Epicor functionality in action but does not affect data in your live, production environment.

The following steps must be taken to successfully complete the workshops in this course.

1. Verify the following or ask your system administrator to verify for you:
 - **Your Epicor training icon (or web address if you are using Epicor Web Access) points to your Epicor training environment with the Epicor demonstration database installed.** Do not complete the course workshops in your live, production environment.

 **Note** It is recommended that multiple Epicor demonstration databases are installed. Contact Support or Systems Consulting for billable assistance.

 - **The Epicor demonstration database is at the same version as the Epicor application.** The demonstration database is installed from the Epicor Administration Console using the "Add Demo Database" command under Database Server. See Epicor ERP installation guides for details. If you are an Epicor Cloud ERP customer (and have licensed embedded education), the demonstration database is installed for you.
 - **Your system administrator restored (refreshed) the Epicor demonstration database prior to starting this course.** The Epicor demonstration database comes standard with parts, customers, sales orders, and so on, already defined. If the Epicor demonstration database is shared with multiple users (that is, the database is located on a server and users access the same data, much like your live, production environment) and is not periodically refreshed, unexpected results can occur. For example, if a course workshop requires you to ship a sales order that came standard in the Epicor demonstration database, but a different user already completed this workshop and the Epicor demonstration database was not restored (refreshed), then you will not be able to ship the sales order. If you are an Epicor Cloud ERP customer see section below.
2. SSRS must have been configured for your training application server instance. Refer to ERP installation guide for instructions for configuring SSRS on the Reporting Services tab of an application server instance.
3. You must have downloaded and installed **Microsoft Report Builder** on the client where you are taking the course. Download the version of Report Builder that matches the Microsoft SQL Server version of your training application server database.
4. Log in to the training environment using the credentials **epicor/epicor**.

If you are asked to log into your training environment with another User ID, for example, 'nancy' or 'bhoward', on the initial logon, a message appears to inform you the password has expired. Perform the following steps to set a new password:

 1. To the **Password Expired** message, click **Yes**.
 2. In the **Current password** field, enter the User ID of the user you are asked to log in as, for example, 'nancy'.
 3. In the **New password** field, enter a new password, for example 'Train123'.

 **Important** In **Epicor ERP Cloud** environment, the password must not contain user ID, must be longer than 7 characters and include at least one uppercase letter.

 4. In the **Confirm new password** field, re-enter the same password.
 5. Click **OK**. The Change Password window closes and you are logged on with the new user ID.

 **Note** Record the new password. This is important as this will be the password everyone uses when they log on with this User ID, until the database is refreshed.

5. From the Menu, select the company **Epicor Education (EPIC06)**.
6. From the Menu, select the **Main site**.
7. In **Company Maintenance** verify, or ask your system administrator to verify, that **SSRS Printer Option** on the **Email and Printing** tab is set to either **Client and Server Printing** or **Server Printing Only**.

Kinetic Interface Specific Information

All the workshops in this course can be completed using the **Classic** layout. To ensure that the user interfaces used in this course display in the Classic layout, use the steps below:

1. Navigate to **Kinetic Application Maintenance**.

Menu Path: System Setup > Security Maintenance > Kinetic Application Maintenance

2. From the **Menu** list, select the **Epicor Education** company.

The **Company Epic Corporation** pane displays.



Note If you need to work in a multi-company environment you will have to disable the Kinetic layout for all the companies used in the course.

3. Inactivate the **Enable Kinetic UI** ON/OFF button.
4. Exit Kinetic Application Maintenance.
5. On the standard toolbar, select **Options > Preferences**.
6. In the window that displays, in the **Form To Use** field, select **Classic**.
7. Select **OK** to confirm.
8. Relaunch Epicor ERP.

Epicor Cloud ERP Specific Information



Note If you are an Epicor Cloud ERP customer, then note the following about your Epicor-hosted education company. All logins referenced in the course (such as manager, or epicor) should be changed to be the *<site ID>*-. For example, if your site ID is 98315, then wherever you are instructed to use the login **epicor**, instead use **98315-epicor**. The password is 'Train18!'.



Note To refresh your Epicor training data, enter a support ticket in **EpicCare** and include your site ID.

Report Types

The Epicor ERP application can utilize the following types of SSRS reports. You most likely will use all these types of reports in your business flow.

SSRS report types:

1. **System Reports** - Installed with the application, each system report is the base version of the report. You cannot modify these reports; this ensures you can always run the base version of each report. However you can make a copy of a system report and then customize this copy as you need.
2. **Custom Reports** - These reports are customized versions of system reports. When you make a copy of a system report in **Report Data Definition Maintenance**, you can then modify this report to better reflect the data your organization needs to review. You make changes to the report's table structure within Report Data Definition Maintenance and then make changes to the report layout in **Microsoft® Report Builder®** (or a similar SSRS report layout tool).
3. **Business Activity Query (BAQ) Reports** - These custom reports are created from business activity queries (BAQs) within the **BAQ Report Designer**. You can create BAQ reports from existing system BAQs or custom BAQs. Just like you cannot modify system reports, you cannot modify system BAQs. However you can make copies of BAQs within the Business Activity Query Designer to customize them.

Review ERP Schema

This section of the course reviews the table and field name identification process in the Epicor ERP application, using Field Help, and the Data Dictionary Viewer functionality. It also describes table linking procedures and requirements, join type definitions and specifications.

A fundamental requirement when modifying or authoring reports or queries is to identify which tables within the database contain the needed data, and which field names are used to store that data. This section provides information on how to investigate schema details.

Field Help Technical Details

The Field Help feature is a quick reference tool that provides a brief field description and the technical property reference for selected fields.

To enable Field Help, from the **Help** menu, select **Field Help** and click a field in the interface.

The Field Help sheet contains two menu items:

- **Field Level Help** - The Field Level Help is a text description of the field from the Application Help. You can use Field Help as a learning tool, as it allows you to access documentation for each field.
- **Technical Details** - The technical details include the data dictionary information for the field. You use the technical specifications for a field when building business activity queries (BAQs), using Business Process Management (BPM) methods, and other advanced functions of the Epicor ERP application.



Note To view technical details, you must have permission to access the corresponding business object. This permission is set in **Process Security Maintenance** for the **bo.DataDict** business object.

The technical details of the Field Help are valuable in understanding the table structure of the database. Keep in mind that data can reside in multiple tables. The query topic displays where the data comes from.

You can also use the Customization feature to locate tables and fields.

Workshop - Use the Field Help

In this workshop, use the Field Help to find table and field names.

The Field Help provides a Technical Details sheet to display the data dictionary information for a selected field. The properties that display are helpful when you create a Business Activity Query and discuss the Data Dictionary Viewer.

- **Field Name** - Displays the field name as defined by the Epicor application. This name is used in all expressions.
- **EpiBinding** - Displays the tables (epiDataViews) stored in memory on the client workstation. The syntax is always <Tablename>.<Fieldname>. For example, the field displays Part.PartNum, which means the table is the Part table and the field to pull into the query is the Part Number field.
- **DB Field** - Displays the database field property which also displays as <Tablename>.<Fieldname>. When you create or modify reports, the DB Field property defines the field in the report layout. While usually a direct connection exists between the DB Field and the EpiBinding, in some cases fields in the epiDataView are not found in the corresponding data table.

- **Format** - Describes the database format for this field and the number of characters to which that field is limited.
- **Like** - Use this field to validate a BAQ search and generate Foreign Key Views to indicate the common field between two tables or datasets.

1. Navigate to **Part Maintenance**.

Menu Path: Material Management > Inventory Management > Setup > Part

2. From the **Help** menu, select **Field Help**.

In the tree view pane, the **Field Help** sheet displays. It automatically opens in an undocked position.

3. Place the cursor in the **Field Help** sheet header and click the **push pin** icon to dock the **Field Help** window.

4. Place the cursor in the **Description** field.

5. In the **Field Help** sheet, click **Technical Details** and view the information.

You can adjust the Field Help width to see the fields properly.

6. Navigate to the **Part > Sites > Warehouses > Primary Bin** sheet and place the cursor in the **Bin** field.

The properties populate with the data in this field. The table and field combination display in the EpiBinding field of the Technical Details in the format of <table>.<field>.

7. Navigate to the **Part > Sites > Warehouses > Bin Information > Detail** sheet and place the cursor in the **Bin** field.

Notice the database field is different.



Note Data is often stored in multiple places, and table selection depends on the purpose of the query. This example presented a part's listing with a part bin location.

8. Exit Part Maintenance.

Data Dictionary Viewer

Use the **Data Dictionary Viewer** to find and review details of each field and table within the database. Use this program to better understand the purpose and data values of each field.

The Data Dictionary Viewer helps you to identify the fields and tables you want for a customization or a custom report. This program is also an aid during upgrades, as you can view the current database structure to compare it against a previous database version.



Important In Epicor ERP version 10, user-defined columns are placed within separate UD tables. For example, the Part table may have a corresponding Part_UD table.

Navigate to this program from the Main Menu:

- System Setup > System Maintenance > Data Dictionary Viewer

Tables

Use the **Tables** sheet to find and select the database table to review.

The Data Dictionary Viewer is organized by tables. A table is a set of fields that contain related information.



Example

- Use the **Customer** table to store all your customer records.
- The **OrderHed** table records your order header records.

Data is often stored in multiple tables, each with a specific purpose. Use the **Search** option to display tables in a grid format. The grid includes a brief overview of the tables and helps determine which table to use when a field is located in more than one table.

Fields

Use the **Fields > Detail** sheet to display specific information about each selected field. All values for a selected field, such as format, label, and description, display on this sheet.

Each table contains various fields. These items are individual pieces of information associated with the table, and each field has a unique name.



Example The Customer table includes the identifying code for the customer (CustNum), name (Name), and other specific details about the customer.



Tip The Data Dictionary Viewer properties are also available in the Technical Details area of the Field Help. When accessed through the Field Help, the details are specific to the selected field.

Table Linking

You link multiple tables together to display the data you need within a business activity query (BAQ) or a custom SQL Server Reporting Services (SSRS) report. You link one or more fields the tables have in common so the data displays together in the output.

Table Links

Link tables so the records from one table match related records from another. This linking process involves using a common field between the selected tables. For example, if you activate an Orders table and a Customers table, link the tables so each order from the Orders table can be matched with the customer from the Customer table that made the order.

Reporting or querying tools use this connection to identify related records between tables. In the above example, the linking process ensures the data in each line of the report refers to the same order.

Table Link Requirements

Table link requirements involve linking from one table to another. The **from** table is the primary table, while the **to** table is the lookup table where records are looked up by the primary table. For example, if the Quote is the primary table, the querying or reporting tool chronologically goes field by field through the Quote table and searches for matching records in the second table, which can be customers, until all fields are evaluated.

Link Types

The main link types are **one table to another** or **one table to multiple others**.

- **One table to another** - The primary table and the lookup table have a one-to-one relationship between their records.
- **One table to multiple others** - The primary table and the lookup table have a one-to-many relationship between their records.

Indexed Fields

An index field points to a data location which is a named path designed within the database in order to quickly locate and store data or to easily retrieve data in a table. The index name and path, or index order, are identified in the **Data Dictionary Viewer** and on the **Field Help > Technical Details** sheet.



Important Always use the **Company** field as it is the first indexed field and it is located at the top of the Epicor ERP application table hierarchy. The data of each company is stored and separated from other company data using the **Company ID** field. Since every table uses the Company field, you must select this indexed field as one of the primary linking fields in a join.

There are no exceptions to this rule. You must select the Company field as a join field pair when linking tables because company is at the top of the table hierarchy in the Epicor application. Your report will not provide the correct results if this field is not used in the join.

Modify System Reports

The SSRS reports installed with the Epicor ERP application are built on dynamic database table structure known as the Report Data Definition (RDD). This structure has been implemented to support good report performance.

In the following workshops, you will explore how to copy and modify RDDs and their accompanying SSRS definition files (RDL files) to create custom versions of system reports. Note that to create a completely original RDD, you need to use the Epicor ERP Software Development Kit (SDK). Using the ERP SDK is outside the scope of this course.

The primary Microsoft tool you will use to modify SSRS reports is **Microsoft® SSRS Report Builder®**. Usually called Report Builder, this application is an a Microsoft Office-like authoring tool for SSRS reports. Through this application, you can modify existing SSRS reports and create new SSRS reports. You do this by defining what data displays on the report and designing the report layout.

If you run the Epicor ERP application on your organization's network (on-premise), you will also need to use **Microsoft® Report Manager®**. Installed as one of the components of SSRS, Report Manager is a web-based report access and management tool you use to manage reports on the SSRS report server. Report Manager is a good starting point for creating and editing reports; you can select a report and open it for editing in Report Builder and you can launch Report Builder by itself to begin creating a new report.

Be sure you have a Report Builder installation to access; you cannot do the workshops without this application. If you run Epicor ERP on-premise, you can launch the Report Builder from the Report Manager application on your server. If you run Epicor ERP through a hosted (Cloud) environment, you must download and install Report Builder on the client workstation. In either case, be sure to use the Report Builder version that matches the version used in your environment.



Note For more information, review the SQL Server Reporting Services (SSRS) documentation available from the Microsoft website.

Workshop - Add a Replaceable Image

You can add images like company logos to the standard ERP reports with enabled replaceable images functionality. Replaceable images have been implemented in the following standard reports:

- AR Invoice
- Customer Statement
- Debit Memo
- Packing Slip
- Purchase Order
- Reminder Letter
- Sales Order Acknowledgment
- Supplier Statement

In this workshop, you will add a logo to the Customer Statement report.

Add a Logo to the Report

In this procedure, you add a logo image that will print with the report.

1. Open the **Report Style Maintenance** program.

Menu Path: System Management > Reporting > Report Style



Important This program is not available in Epicor Web Access.

2. For **Report ID**, enter **CustSt** and press **Tab**.
3. Navigate to the **Styles > Style Detail > Companies/Images** sheet.
4. Click **Retrieve** above the **Image List** grid.



Note By default, the Image List is blank even if the report contains images. The image details, if any, display upon the Retrieve action. If you are adding an image for the first time, only the Purpose column will be populated. Otherwise full image details will display.

5. Double-click on any cell in the line for the image you wish to update. The **Image Search** dialog displays.
6. Select your image and click **OK**. Your newly added image details and an image thumbnail display in the grid.
7. Click **Save**.

You have successfully added an image that will be printed with the Customer Statement report.

Workshop - Add a Table/Column

In this workshop, you create a copy of the Sales Order Pick List report definition that ships with the Epicor ERP application, and then create a new report style that uses the copied definition which is modified to use an additional ERP table/column.

Specially you will add the **Customer** table to the report. Then from this additional table, you add the SalesRepCode column to the custom Sales Order Pick List report.

Modify Report Data Definition

Working in Epicor ERP, copy a system report data definition and edit the copy to add a table to it.

A report data definition is a structure of tables and fields that will be used by a reporting engine (like Crystal, EDI, SSRS or Bartender) to lay out data on a report.

1. Start the **Epicor ERP** application.
If prompted, enter **epicor** for both user name and password.
2. Open the **Report Data Definition** program in company Epic06.
Menu Path: System Management > Reporting > Report Data Definition



Important This program is not available in Epicor Web Access.

3. For **Code**, type **SOPick** and press **Tab**.
4. From the **Actions** menu, select **Duplicate Report**.
The **Duplicate Report Definition** dialog box opens.
5. For **Report Def ID**, enter **SOPickXXX** where XXX are your initials.
6. For **Description**, enter **My Sales Order Pick List**.
7. Click **OK**.
The newly-created report definition is displayed.
8. From the **File** menu, select **New > New Table**.
9. Click **Schema Table**.
The **Table Search** window displays.
10. For the **Starting At** field, enter **Customer**, and click **Search**.
11. From the **Search Results** grid, select the **Customer** table and click **OK**.
12. From the **File** menu, select **New > New Relationship**. Navigate to the **Relationship > Detail** sheet.
13. Enter the following values:
 - a. Relation: **OrderHedCustomer**
 - b. Description: **OrderHedCustomer**
 - c. Parent Table: **OrderHed**
 - d. Key: Click down arrow and select **PK_OrderHed**
 - e. Child Table: **Customer**
 - f. Relation Type: **Output**



Note The Relation Type value defines how these two tables are joined within the report definition. The join you select from this drop-down list determines how data between these two tables displays within the report. Available options:

- **Definition Only** – This relationship is an inner join; the report will only display data from the parent table if linking data exists in the child table.
- **Output** – This relationship is a left outer join; this report displays all requested data from the parent table regardless of the linking data available within the child table.

14. Click **Save**. The Relationship fields are added. Click **Save** again, and then click **Refresh** to load the exclusions list for the Customer table.
15. From the **Data Sources** node, select the **Customer** table.

16. Navigate to the **Exclusions** tab with the **Customer** table still highlighted under the **Data Sources** tree view node. By default, both the **ExcludeColumn** and **ExcludeLabel** check boxes are selected.
17. Clear the **ExcludeColumn** check box for the following columns:
 - Company
 - CustNum
 - SalesRepCode
 - SysRowID
18. Close **Report Data Definition** and remain in the application for the next exercise.

Create Report Style

Working in ERP, create a report style that uses the report data definition that you created in the previous procedure.

A report style defines a variation for a report in the Epicor ERP application. The variation is reflected mainly on the report type, the report template being used, the report data output location, report options passed to the reporting engine, and the companies in which the style can be used.

1. Open **Report Style Maintenance**.

Menu Path: System Management > Reporting > Report Style



Important This program is not available in Epicor Web Access.

2. For **Report ID**, enter **SOPick** and press **Tab** key.
3. In the tree view, expand the list of Report Styles. Make sure you have the **Standard - SSRS** style highlighted. From the **Actions** menu, select **Copy Report Style**.
Report Copy Location window displays. Click **Copy**. In the **Modified Custom Reports** dialog box, click **Copy** once again.
4. Click the newly-created report style **Standard - SSRS - Copy**.
5. On the **Styles > Style Detail** sheet:
 - a. For **Description**, edit to read **Standard - SSRS - XXX** where XXX are your initials.
 - b. For **Data Definition**, select **SOPickXXX** where XXX are your initials.
 - c. Next for the **Report Location**, take notice of the path here. This refers to a location in SSRS Report Manager. Note that a *copy* of the report used in the original style has been placed in this location under **CustomReports**.
 - d. Now for the **Output Location**, verify the **Database** option displays. This value is copied from the system report.
 For SSRS reports, two Output Location options are available, **Database** and **XML**. In most cases you should select the Database option, as SSRS reports released with Epicor 10 or higher store information directly within the database. However if you are defining a style for an older SSRS report and have not migrated it yet, select the XML option. Older SSRS reports store data in .xml files.
6. From the **File** menu, select **Save**.

7. Verify that the cursor is still on the newly-created style. Navigate to **Styles > Style Detail** sheet, click **Sync Dataset**.



Logic The Sync Dataset action does not allow adding like-named columns of standard tables. This is based on the assumption that such columns most likely contain the same data in different tables.

However, if you add a User-Defined (UD) column to the report definition and its name matches the name of the column that already exists in the RDL, the Sync Dataset action will modify the name of the added column by prefixing it with its table name in the following format -

[TableName]_[ColumnName] - and will add it to the report definition.

The expression in the SSRS report that generates the dataset for the report is now based off the report definition you created, and the dataset items in the report now have the added schema items for you to drag and drop onto the report.



Note Data definition queries that use a GROUP BY clause and/or have subqueries are not included in dataset synchronization; fields within these queries will need to be added manually through the SSRS report builder.

Also note this button is only available for custom reports. You cannot synchronize datasets on system reports; this button is disabled on system report styles.

8. Click **Actions > Download SSRS Report**. Select an empty folder on your client computer, click **OK**, and **OK** again.



Note In order to download the SSRS report, your account must have the **SSRS Report Designer** privilege enabled in **User Account Security Maintenance**.

9. Close **Report Style Maintenance** and leave the application running for use later in the workshop.

Add the New Field

In this procedure, you add the field to the body of the report.

1. Open **Windows Explorer** and go to the folder to which you downloaded the report files in the previous procedure.
2. In the **SalesOrderPickList** folder, double-click **SOPickL.rdl** to open the file in Report Builder (see **Environment Setup** topic for instructions on installing Report Builder). When prompted for a server name click **Cancel**.
The report opens in Design mode. If desired, increase zoom level in lower-right corner.
3. In the **Report Data** pane, expand the **OrderHed** dataset and drag **SalesRepCode** (which is about 3/4 of the list down) to the design area and drop it to the right of **Calc_CustName** placeholder box.
A new text box containing the placeholder **[First(SalesRepCode)]** is created.
4. Select **[First(SalesRepCode)]**, right-click, and choose **Placeholder Properties**.
5. In the **Placeholder Properties** window, do the following:
 - a. Select **General**, and for **Value**, click **fx** to open the **Expression** window.
 - b. Under **Set expression for: Value**, change **=First(Fields!SalesRepCode.Value)** to **=Fields!SalesRepCode.Value** and click **OK** to close the **Expression** window.

- c. Select **Font**, and for **Size** select **9pt**.
- d. Click **OK** to close the **Placeholder Properties** window.

The placeholder now appears as **[SalesRepCode]**.

6. Inside the text box, use the arrow keys to get the cursor to the left of **[SalesRepCode]** and type **Sales Rep:** (with an ending space).
7. Click the text box and use the handles to resize and move the text box so it displays even with the **Calc_CustName** field.
8. Click **File** and select **Save**.
9. Exit Report Builder.

Upload and Test the Report

Upload and test the new report from Epicor ERP.

1. If it not already open, start Epicor ERP.
If prompted, enter **epicor** for both user name and password.

2. Open the **Report Style Maintenance**.

Menu Path: System Management > Reporting > Report Style



Important This program is not available in Epicor Web Access.

3. For **Report ID**, enter **SOPick** and press **Tab** key.
4. Click the the report style that you created, **Standard - SSRS - XXX**.
5. From the **Actions** menu, select **Upload SSRS Report**. Select the folder to which you downloaded the reports previously for this workshop and click **OK**.



Note In order to upload the SSRS report, your account must have the **SSRS Report Designer** privilege enabled in **User Account Security Maintenance**.

A confirmation of uploaded reports displays.

6. Open the **Sales Order Pick List** report program window in company Epic06.
Menu Path: Sales Management > Order Management > Reports > Sales Order Pick List
7. Under **Report Options**, change the **From** date to be one year back of the **To** date (to make sure you have some sample data).
8. For **Report Style**, select **Standard - SSRS - XXX** where XXX are your initials.
9. Select **File >Print Preview**.
The report preview displays. You should see the added **Sales Rep: <value>** on each report page.

Workshop - Edit Custom SSRS Report

To facilitate the process of modifying custom SSRS reports, the SSRS reporting functionality is extended with the option to generate a report for design only.

In this workshop, generate a report for design. The generated report appears on the System Monitor. From here you launch the SSRS Report Design program that enables you to download the SSRS Report Data Definition to a local working copy and interact with SSRS Report Builder (or SSRS Report Designer) to modify the SSRS visual layout. You then save your local copy, and preview your working copy against the same data originally extracted for the report generation. Once satisfied, you upload a working copy to overwrite the live version of the custom report.

Generate Report For Design

Generate the Customer Statements report for design.

1. Open the **Customer Statements** report in company Epic06.

Menu Path: Financial Management > Accounts Receivable > Reports > Customer Statements

2. Under **Report Options**, change the **Begin Date** to be one year back of the **End Date** (to make sure you have some sample data).

3. For **Report Style**, select **Standard - SSRS - XXX** where XXX are your initials.

4. In the **User Description** field, enter **Customer Statements**

5. Select **File >Generate for Design**.

Notice the Report Submitted for Generation message displays at the bottom of the report window.

6. You can see the generated report on the System Monitor.

Menu Path: System Setup > System Maintenance > System Monitor



Important This program is not available in Epicor Web Access.

7. Navigate to **History Tasks > Task Detail** sheet and select the **Customer Statements** report.

8. Click **Actions > Design SSRS Report**.

The **SSRS Report Design** program displays.

Download Report

Download the report from the SSRS server.

1. In the **SSRS Report Design** program, click **Actions > Download**.

The **Browse For Folder** window displays.

2. Select any folder location on the client.

3. After you have selected the folder, click **OK**.
The .rdl files for the SSRS report are downloaded onto your system.
4. In the **Launch Designer** window, click **Yes** to open the report definition for design in Microsoft SQL Server Report Builder.

Modify Report Layout

Once you have downloaded the report definition you can use SQL Server Report Builder to edit the report. Add the date and time that the report began to run to the report layout.

1. If the **Connect to Report Server** window displays, click **Cancel**.

The Microsoft SQL Server Report Builder displays.



Tip Use **Actions > Design** to open the Report Builder if you close the application.

2. In the **Report Data** pane, expand the **Built-in Fields** node.
3. Drag the **Execution Time** field to the report design surface.
4. Save the report and exit the Report Builder.
5. To preview the report, in the **SSRS Report Design** program, click **Actions > Preview**.

Publish and Test Report

Upload and test the report from Epicor ERP.

1. In the **SSRS Report Design** program, click **Actions > Publish** to overwrite the report definition on the server.
2. In the **Publish Report Definition** window, click **Yes**.
3. Navigate to the **Customer Statements** report.
Menu Path: Financial Management > Accounts Receivable > Reports > Customer Statements
4. Under **Report Options**, change the **Begin Date** to be one year back of the **End Date** (to make sure you have some sample data).
5. For **Report Style**, select **Standard - SSRS - XXX** where XXX are your initials.
6. Select **File > Print Preview**.
The report preview displays. You should see the execution time of the report.

BAQ Reports

In the Epicor ERP application, the **BAQ Report Designer** enables you to design a SQL Server Reporting Services (SSRS) report that displays the output from a Business Activity Query (BAQ). The **Report Data Definition** program allows you to create a custom report that displays the output from multiple Business Activity Query (BAQ).

You can create a report based on a system BAQ, an existing custom BAQ, or a custom BAQ you create in the **Business Activity Query Designer**. You then select the query within the **BAQ Report Designer**. Working in this tool you can open the report in SSRS Report Builder, where you can control the report layout and select the data that displays in the report.

Alternatively, you can use the **Report Data Definition** program to build a custom BAQ report. When you create a new report definition you define its main attributes and select the queries that will provide specific information to display. Optionally, you can select one or several BAQs for your report data definition. When multiple BAQs are chosen, you can define parent-child relationships between the BAQ columns. You then use the **Report Criteria Sets** sheets to filter the data that displays through the BAQ report. Once you have defined the report data definition, use the Report Style Maintenance to apply the report criteria set to the report. Using the **Create SSRS Report** feature of the Report Style Maintenance program enables you to generate an .rdl file into SSRS as the starting point for designing the visual SSRS report in the SSRS Report Builder.

Workshop - Create SSRS BAQ Report

In this workshop, you add a BAQ report based on an existing BAQ, design the report layout in Microsoft SQL Server Report Builder, download/upload the (.rdl) from/to the SQL Server Report Server, and add the report to the application menu.

Create the BAQ Report

In BAQ Report Designer, create and save a new report. On completion, you have the report rdl (SSRS) file with a blank layout, but the datasource and datasets are set up for you to work with later. The file is automatically created on the server. In later exercises, you will download it to work on the layout.

1. Navigate to BAQ Report Designer.

Menu Path: System Management > Business Activity Queries > BAQ Report Designer



Important This program is not available in Epicor Web Access.

2. Click the down arrow next to **New** on the Standard toolbar and select **New Report Definition**.
3. On the **Detail** sheet, enter or verify the following for the new report:
 - For **Report ID**, enter **aa_CustomerTest**.
 - For **Description**, enter **SSRS BAQ Report Demo**.
 - For **BAQ ID**, locate and select **zCustomer01**. This standard system BAQ contains primary customer information.
 - For **Form Title**, enter **Customers SSRS Report Demo**.
 - For **SSRS Report**, note that **aa_CustomerTest.rdl** has been added automatically based on the value in Report ID.

4. Click **Save**.
The SSRS report definition file (.rdl) is created on the server.
5. Stay in BAQ Report Designer with aa_CustomerTest open and proceed to the next exercise.

Create Report Option

You can add option fields that will then display on the report interface. These options affect the results that appear on the report output.

For this report, you want to give users an option that limits the report to only display customers placed on credit hold. To do this, you add a check box users can decide to select. When users click on this check box, the report only displays customers whose Credit Hold check box is active (set to TRUE).

1. Click **New > New Option Field**.
A new row displays in the **Report Selection Options** grid.
2. Define the parameters for the option field:
 - a. **Option Field** - From the drop-down list, select **Customer_CreditHold**.
After **Option Field** value (Customer_CreditHold) is selected from the drop-down list, **Field Label**, **Compare Operator** and **Data Type** fields are filled automatically.
 - b. **Field Label** - Verify the field displays **Credit Hold**.
 - c. **Compare Operator** - Verify the **Equals (=)** option is selected.
3. Click **Save**.
4. Stay in BAQ Report Designer with aa_CustomerTest open and proceed to the next exercise.

Add Report Filter

Now add a filter to further restrict the data that displays on the report.

For this report, you want to give users the option to filter the results by sales territory.

1. Click **New > New Filter**.
A row displays in the **Report Filters** grid.
2. From the **Filter** drop-down list, select **Customer_TerritoryID**.
3. Accept the default values for the rest of the row.
4. Click **Save**.
5. Exit the BAQ Report Designer.

Design the BAQ Report

Download the template BAQ Report you created earlier and use SSRS Report Builder to design the report layout. Upload to test. Continue downloading/uploading as you refine your report.



Important You must have installed Microsoft Report Builder on your local workstation to continue. Install the Report Builder version that matches the SQL Server version in use for your ERP environment. Report Builder is a no-cost program available from Microsoft.

To design and test the report:

1. On your local client workstation, open Windows Explorer and create a folder on your C:\ drive (or wherever you store work data) and name it **EpicorCustomReports**.

2. Navigate to **Report Style Maintenance**.

Menu Path: System Management > Reporting > Report Style



Important This program is not available in Epicor Web Access.

3. For Report ID, enter **aa_CustomerTest** and press Tab.

4. From the **Actions** menu, select **Download SSRS Report**. Select the folder you created in step 1, click **OK**, and click **OK** on confirmation message.



Note In order to download the SSRS report, your account must have the **SSRS Report Designer** privilege enabled in **User Account Security Maintenance**.

5. Open Windows Explorer and navigate to the folder you created in step 1. Drill-down the folder structure **Reports > CustomReports** and double-click **aa_CustomerTest.rdl** to open the SSRS report layout file in Report Builder. Click **Cancel** on the prompt to connect to an SSRS report server. The report definition file displays in Report Builder.

6. In Report Builder, select the **Insert** tab and then select **Table > Table Wizard** to run the **New Table or Matrix** wizard.

7. On the **Choose a dataset** screen, choose **BAQReportResult** and click **Next**.

8. Now in the **Arrange fields** screen, click and drag all the fields in the **Available fields** column to the **Values** column.

9. Click **Next**.

10. On the **Choose the Layout** screen, clear all options and click **Next**.

11. Click **Finish** to close the wizard.

12. From the **File** menu, select **Save**. Leave Report Builder open.

13. Go back to **Report Style Maintenance** (this should still be open). From the **Actions** menu, select **Upload SSRS Report**. Select the folder you created in step 1, click **OK**, and click **OK** on confirmation message.



Note In order to upload the SSRS report, your account must have the **SSRS Report Designer** privilege enabled in **User Account Security Maintenance**.

14. Open BAQ Report Designer to test the report.

Menu Path: System Management > Business Activity Queries > BAQ Report Designer



Important This program is not available in Epicor Web Access.

- a. For **Report ID**, enter **aa_customerTest** and press Tab (if it was not already open).
- b. Click **Actions > Test Report Form** to open the report's form.
- c. Click **Print Preview** to display the report with your design work.

The report displays in PDF format, which is the default for SSRS reports.

15. If you would like to continue working on the report layout, start back at step 5 in Report Builder and continue to upload changes (from Report Style Maintenance), testing each change by running report in BAQ Report Designer. Leave all of the programs open as you do this to make the process easier.

Add Menu Item for BAQ Report

Add the BAQ report to the menu system in the Epicor ERP application.

Once you are satisfied with you BAQ you add a menu item for it so you can control access to it for other users. For this example, the BAQ report is added to the application menu structure under Sales Management. You can use locations and values that match the report you are working with.

1. Open **Menu Maintenance**.

Menu Path: System Setup > Security Maintenance > Menu Maintenance



Important This program is not available in Epicor Web Access.

2. On the **Menu Maintenance** tree, navigate to: **Main Menu > Sales Management > Order Management > Reports**. Verify **Reports** is highlighted.
3. Select **File > New > New Menu**.
4. In the **Menu ID** field, enter **UDXXX01** (where XXX are your initials).



Important It is an important standard practice to use a **UD** prefix when adding a menu ID. UD stands for **User Defined**.

5. In the **Name** field, enter **Customers SSRS Report Demonstration**.
6. In the **Order Sequence** field, enter **997**.
7. Click the **Program Type** drop-down menu and select **BAQ Report**.
8. Click **Report....** and then search for and choose the BAQ report **aa_CustomerTest**.
9. Click **Save** and click **OK** if you get a security update message.
10. Log out and log back into the **Epicor** application.

This ensures you do not have to wait for an automatic update.

11. Open the **Customers SSRS Report Demonstration** report form.

Menu Path: Sales Management > Order Management > Reports > Customers SSRS Report Demonstration

12. To display the report, click **Print Preview**.

Deploy a BAQ Report as a Kinetic Application

In this workshop task, you will use the **Preview Kinetic Form** command of the **Actions** menu to display the BAQ report you created as a Kinetic application. You can then test its options fields, filters, and advanced settings, deploy it and add it to the main menu to make it available for other users within your company

1. Navigate to **BAQ Report Designer**.

Menu Path: Executive Analysis > Business Activity Management > General Operations > BAQ Report Designer



Important This program is not available in Epicor Web Access.

2. In the **Report ID** field, enter **aa_CustomerTest** to select the report you created earlier.

3. From the **Actions** menu, select **Preview Kinetic Form**. The BAQ report's interface displays as a Kinetic application. Expand and review the **Options**, **Filter** and **Advanced** panel cards, they allow you to select the data you want to display on the report.

The **Preview Kinetic Form** action also generates the Kinetic BAQ report file and uploads it to the **Ice.UIRpt.aa_CustomerTest** folder to the following directory: **Server/Apps/MetaUI**. The name of the folder - **Ice.UIRpt.aa_CustomerTest** - is the name of the generated Kinetic BAQ report program. Note the name as you will need it in the next steps. Now you are ready to add this Kinetic BAQ report to the main menu.

4. Navigate to **Menu Maintenance**.

Menu Path: System Setup > Security Maintenance > Menu Maintenance



Important This program is not available in the Epicor Web Access.

5. In the tree view, select the **Executive Analysis > Business Activity Management > Reports** folder and expand it (this will be the folder where the application will place the new item), and then select **New Menu**.

Make sure a blank menu item appears as the first one in the **Reports** folder.

6. In the **Menu ID** field, enter **UDXXXRpt**, where **XXX** are your initials.

7. From the **Module** drop-down list, select **UD**.

8. In the **Name** field, enter **XXX Kinetic BAQ Report**, where **XXX** are your initials. It will display as the name of your Kinetic BAQ report in the main menu.

9. Verify **Order Sequence** is set to **0**.

10. From the **Program Type** drop-down list, select **Kinetic App**.

11. From the **Program** drop-down list, select the Kinetic BAQ report program: **Ice.UIRpt.aa_CustomerTest**.



Note The **URL** field fills in with the Kinetic BAQ report URL:
/metafx/#/view/Ice.UIRpt.aa_CustomerTest.

12. Select **Save**, log out and log back into the **Epicor** application. You can now launch this Kinetic BAQ report from the **Executive Analysis > Business Activity Management > Reports** folder in the main menu.

Workshop - Create SSRS Multiple BAQ Report

In this workshop, you create a BAQ report based on several custom BAQs with specified parameters in Report Data Definition, design the report layout in Report Style Maintenance, and then generate an .rdl file into SSRS as the starting point for designing the visual SSRS report.

In particular, you are creating a simple AP Invoice Report. For this report, you want to give users an option to filter the report by Vendor Number and Invoice Date.

Create Custom BAQs

In BAQ Report Designer, create three new BAQs to be used in a custom AP Invoice Report. On completion, you will have 3 new BAQs: **AP Invoice Header**, **AP Invoice Detail** and **Company Address**.

Add AP Invoice Header BAQ

In this task, add AP Invoice Header query that contains the following invoice header fields: Company, Vendor Number, Invoice Number and Invoice Date. You also specify query parameters to filter the data using parameter values for Vendor Number and Invoice Date.

1. Navigate to BAQ Designer.

Menu Path: System Management > Business Activity Queries > Business Activity Query

2. In the Business Activity Query Designer, click **New** to create a new query.
3. In the **Query ID** field, enter **XXX_APIInvHead** (where XXX are your initials).
4. In the **Description** field, enter **XXX AP Invoice Header**.
5. If you want to make this query available to all users, select the **Shared** check box.
6. In the **Query Builder > Phrase Build** sheet, above the list of tables, in the filtering field, enter **AP**.
7. From the list, select the **Erp.APIInvHed** table and drag it on the canvas in the center pane.
8. Navigate to the **Display Fields > Column Select** sheet.
9. Expand the **APIInvHed** node, hold the **Ctrl** and select the following columns:
 - **Company**
 - **VendorNum**
 - **InvoiceNum**
 - **InvoiceDate**

10. Click the right arrow button to move the columns to the **Display Column(s)** list.
11. In the **Query Builder > Phrase Build** sheet, on the design canvas area, select the **Erp.APInvHed** table.
12. First, create a prompt to only retrieve specific vendors.
 - a. At the bottom of the screen, verify the **Table Criteria** sheet displays.
 - b. From the toolbar, click the **Add Row** button.
The new line displays.
 - c. In the **Field** column, select **VendorNum**. Once you select the field name, set up the condition using the compare operator. The new line displays.
 - d. In the **Operation** column, verify the equal sign (**=**) defaults. This states that the field information has to match the selected filter criterion.
 - e. From the **Filter Value** field, select specified parameter. The word specified displays in blue to indicate a variable or value is required.
 - f. Click specified and in the **Select Parameter** window, click **Define**.
The **Query Parameters** window displays.
 - g. Click **New** to create a new parameter. Enter the following values:

Field	Value
Parameter Name	APHedVendNum
Data Type	int

- h. Save and exit.
 - i. In the **Select Parameter** window, select the **APInvVendNum** parameter and click **Select**.
13. Now create a prompt to only retrieve invoices before the selected date.
 - a. From the toolbar, click the **Add Row** button.
The new line displays.
 - b. In the **Field** column, select **InvoiceDate**.
 - c. In the **Operation** column, select the less than (**<**) sign. This states that the field information has to be less than the selected filter criterion.
 - d. From the **Filter Value** field, select specified parameter.
 - e. Click specified and in the **Select Parameter** window, click **Define**.
The **Query Parameters** window displays.
 - f. Click **New** to create a new parameter. Enter the following values:

Field	Value
Parameter Name	APInvHedInvDate
Data Type	Date

- g. Save and exit.
 - h. In the **Select Parameter** window, select the **APInvHedInvDate** parameter and click **Select**.
14. Navigate to the **General** sheet, and make sure the **Query Phrase** displays the following phrase:

```
select
    [APInvHed].[Company] as [APInvHed_Company],
    [APInvHed].[VendorNum] as [APInvHed_VendorNum],
    [APInvHed].[InvoiceNum] as [APInvHed_InvoiceNum],
    [APInvHed].[InvoiceDate] as [APInvHed_InvoiceDate]
from Erp.APInvHed as APInvHed
where (APInvHed.VendorNum = @APHedVendNum and APInvHed.InvoiceDate < @APInvHedInvDate)
```

For more information on how to create Business Activity Queries, review the Business Activity Queries Course.

15. Click **Save**.
16. Stay in BAQ Designer and proceed to the next exercise.

Add AP Invoice Details BAQ

In this task, add AP Invoice Details query that contains the following invoice details fields: Company, Vendor Number, Invoice Number and Invoice Date. We don't specify any parameters for this query, as the retrieval of invoice details will be based on the relationships that you will establish in the Report Data Definition between the AP Invoice Details query and the AP Invoice Header query in later exercise.

1. In the Business Activity Query Designer, click **New** to create a new query.
2. In the **Query ID** field, enter **XXX_APIInvDtl** (where XXX are your initials).
3. In the **Description** field, enter **XXX AP Invoice Details**.
4. If you want to make this query available to all users, select the **Shared** check box.
5. In the **Query Builder > Phrase Build** sheet, above the list of tables, in the filtering field, enter **AP**.
6. From the list, select the **Erp.APInvDtl** table and drag it on the canvas in the center pane.
7. Navigate to the **Display Fields > Column Select** sheet.
8. Expand the **APIInvDtl** node, hold the **Ctrl** and select the following columns:
 - **Company**
 - **VendorNum**
 - **InvoiceNum**
 - **InvoiceLine**
 - **PartNum**
9. Click the right arrow button to move the columns to the **Display Column(s)** list.

10. Navigate to the General sheet and make sure the **Query Phrase** displays the following phrase:

```
select
    [APInvDtl].[Company] as [APInvDtl_Company],
    [APInvDtl].[VendorNum] as [APInvDtl_VendorNum],
    [APInvDtl].[InvoiceNum] as [APInvDtl_InvoiceNum],
    [APInvDtl].[InvoiceLine] as [APInvDtl_InvoiceLine],
    [APInvDtl].[PartNum] as [APInvDtl_PartNum]
from Erp.APInvDtl as APInvDtl
```

For more information on how to create Business Activity Queries and define parameters, review the Business Activity Queries Course.

11. Click **Save**.

Add Company Address BAQ

In this task, add Company Address query that contains the following company fields: Company ID, Name Address, City, State Tax ID, State Tax Region Code and calculated field Last Date of Month. You also specify query parameters to filter the data using an alternative parameter values for Company.

1. In the Business Activity Query Designer, click **New** to create a new query.
2. In the **Query ID** field, enter **XXX_CompAddr** (where XXX are your initials).
3. In the **Description** field, enter **XXX Company Address**.
4. If you want to make this query available to all users, select the **Shared** check box.
5. In the **Query Builder > Phrase Build** sheet, above the list of tables, in the filtering field, enter **Com**.
6. From the list, select the **Erp.Company** table and drag it on the canvas in the center pane.
7. Navigate to the **Display Fields > Column Select** sheet.
8. Expand the **Company** node, hold the **Ctrl** and select the following columns:
 - **Company**
 - **Name**
 - **Address1**
 - **City**
 - **State**
 - **StateTaxID**
 - **TaxRegionCode**
9. Click the right arrow button to move the columns to the **Display Column(s)** list.
10. First, add a calculated field to the query to display the last date of month value.
 - a. In the **Display Fields > Column Select** sheet, click the **Calculation** (the calculator icon) button.
 - b. In the Calculated Field Editor, click **New**.
 - c. In the **Field Name** field, enter **CalcEndOfMonthDate**.

- d. From the **Data Type** list, select **Date**.
- e. Use the **Functions** tree view to find and select the **BAQ Constants > LastDayOfMonth** constant. Double-click **LastDayOfMonth** to add it to syntax.
- f. When you complete the calculation, click **Check Syntax** to verify the calculation logic is valid.
- g. Close the Calculated Field SQL Editor.

11. Now create the prompt to select invoices for the specific company.

- a. In the **Query Builder > Phrase Build** sheet, on the design canvas area, select the **Erp.Company** table.
- b. At the bottom of the screen, verify the **Table Criteria** sheet displays.
- c. From the toolbar, click the **Add Row** button.
- d. In the **Field** column, select **Company**. Once you select the field name, set up the condition using the compare operator. The new line displays.
- e. In the **Operation** column, verify the equal sign (**=**) defaults. This states that the field information has to match the selected filter criterion.
- f. From the **Filter Value** field, select **specified parameter**. The word specified displays in blue to indicate a variable or value is required.
- g. Click **specified** and in the **Select Parameter** window, click **Define**.
- h. Click **New** to create a new parameter. Enter the following values:

Field	Value
Parameter Name	CompID
Data Type	navchar

- i. Save and exit.
- j. In the **Select Parameter** window, select the **Company** parameter and click **Select**.

12. Navigate to the **General** sheet and make sure the **Query Phrase** displays the following phrase:

```
select
    [Company].[Company] as [Company_Company],
    [Company].[Name] as [Company_Name],
    [Company].[Address1] as [Company_Address1],
    [Company].[City] as [Company_City],
    [Company].[State] as [Company_State],
    [Company].[StateTaxID] as [Company_StateTaxID],
    [Company].[TaxRegionCode] as [Company_TaxRegionCode],
    (Constants.LastDayOfMonth) as [CalcEndOfMonthDate]
from Erp.Company as Company
where (Company.Company = @CompID)
```

13. Click **Save**.

14. Exit BAQ Designer.

Create Report Data Definition

Once you created custom BAQs, you can add them to a report data definition, set up relationships between BAQs and define criteria options for the RDD. These options affect the results that appear on the report output. For this report, you want to give users an option that filters the report by Vendor Number, Invoice Date and Company. To do this, you create input by mapping the query parameters to the criteria options you define on the report data definition. When users use this prompts on the Report form, the report only displays invoices sorted by Vendor Number, the Invoice Date and Company.

Add BAQs to Report Data Definition

In this task, add **AP Invoice Header**, **AP Invoice Detail** and **Company Address** queries to your Report Data Definition.

1. Navigate to Report Data Definition.

Menu Path: System Management > Reporting > Report Data Definition

2. From **File** menu, select **New Report**.

3. In the **Code** field, enter **XXX_APIInvoice** (where XXX are your initials).

4. In the **Description** field, enter **XXX AP Invoice**.

5. From the **Report Type** drop down list, select **SQL Server Reporting**.

6. Click **New > New BAQ**.

The **Data Sources > Report BAQ > Detail** list displays.

7. In the **Query ID** field, enter **XXX_APIInvHead** to add the AP Invoice Header query to the definition.

8. If a warning displays, click **OK**.

9. In the **Report Query** field, enter **XXX_APIInvHedQuery** to identify the query.

10. Click **Save**.

11. Repeat steps 6 - 10 to add the remaining two queries to your definition and name them **XXX_APIInvDtl** and **XXX_CompAddr**.

12. Note the three queries display under the **Data Sources** tree in the **Report Data** pane.

Define Relationships between BAQs

In this task, set up relationships between your queries so that the AP Invoice Header query relates to AP Invoice Details query. Thus, we create relationship fields to say what keys are common between parent (invoice header) and child (invoice details) queries.

1. From the **File** menu, select **New Relationship**.

2. In the **Relation** field, enter **XXX_APIInvHeadToAPIInvDtl** (where XXX are your initials).

3. In the **Description** field, enter **XXX AP Invoice Header to AP Invoice Details**.

4. From the **Parent** drop down list, select **XXX_APIInvHedQuery**.
5. From the **Child** drop-down list, select **XXX_APIInvDtlQuery**.
6. To add a new relationship field, from **File** menu, select **New Relationship field**.
7. Enter the following values:

Parent Field Name	Child Field Name
APIInvHed_Company	APIInvDtl_Company
APIInvHed_VendorNum	APIInvDtl_VendorNum
APIInvHed_InvoiceNum	APIInvDtl_InvoiceNum

8. Click **Save**.

Create Report Criteria Sets

In this example, we have already set up BAQ Defined parameters and table criteria in the BAQ Designer. Report Criteria Sets allow you to create and configure the prompts and filter controls that will accept user input of the required values when the report is submitted. Each prompt or filter is then mapped to a BAQ defined parameter. Therefore when the report is submitted and the user enters prompted values, the BAQ retrieval is controlled by the entered values.

1. From **File** menu, select **New Report Criteria Set**.
2. In the **Report Criteria ID** field, enter **XXX_APIInvCriteriaSet** (where XXX are your initials).
3. In the **Description** field, enter **XXX AP Invoice Criteria Set**.
4. Click **Save**.
5. In the **Criteria Mappings** sheet, select all 3 parameter rows with the BAQ parameters.
6. Click **Create Report Criteria Prompts for Selected** to automatically create new prompts.
7. Use the **Criteria Prompts>Detail** sheet to customize items such as the **Label** text will display on the report submission form.
8. Optionally, use the **New > New Criteria Prompt** menu option to create prompts manually.
9. To preview the report criteria you have defined for the BAQ definition, from the **Actions** menu, select the **Preview Submission Form** action.
10. Close the form and **Save** the definition.

Create Report Style

After you created BAQ-based report data definition and defined a new report criteria set, use the Report Style Maintenance program to select the criteria set to be applied to your report style, and then to generate an .rdl file into SSRS as the starting point for designing the visual SSRS report.



Note To create, download and upload SSRS reports, your account must have the **SSRS Report Designer** privilege enabled in **User Account Security Maintenance**.

1. Open the **Report Maintenance** program.

Menu Path: System Management > Reporting > Report Style

2. For **Report ID**, enter **XXX_APIInvRpt** and press **Tab**.

3. In the **Description** field, enter **AP Invoice Report**.

4. Click **Save**.

5. From the new menu, select **New Report Style**.

6. On the **Styles > Style Detail** sheet:

- a. For **Description**, edit to read **BAQ - SSRS - XXX** where XXX are your initials.
- b. For **Report Type**, select **SQL Server Reporting**.
- c. **Report Location**: this refers to a location in SSRS Report Manager.
- d. For **Data Definition**, enter **XXX_APIInvoice**.
- e. In the **Output Location** field, select **Database**.
- f. From the **Report Criteria** drop-down list select the report criteria set from the previous exercise.

7. From the **File** menu, select **Save**.

8. From the **Actions** menu, select **Create SSRS Report**.

The Report Location is updated showing the new file name and Report Location.



Note A copy of the report used in the original style is placed in this location under CustomReports. Enter **reports/CustomReports/XXX_APIInvoice** for this value.

9. Click **Sync DataSet** on the report style.



Important Unless you click this button, the result data sets from the BAQ's will not be added to the report.

10. From the **Actions** menu, choose **Download SSRS Report**.

11. For the destination folder, choose your Desktop.

A folder will be created on your Desktop named **reports**. It will have the following path structure with your .rdl file in it – **reports\CustomReports\XXX_APIInvRpt\XXX_APIInvRpt.rdl**.

Once you have generated an .rdl file into SSRS, you can use the SSRS Report Builder for designing the visual SSRS report, for example add various tablix objects and fields to display the data in the report.

Design Report Layout



Important You must have installed Microsoft Report Builder on your local workstation to continue. Install the Report Builder version that matches the SQL Server version in use for your ERP environment. Report Builder is a no-cost program available from Microsoft.

To design the report:

1. On your local client workstation, open Windows Explorer and drill-down the folder structure **Desktop > reports > CustomReports > XXX_APIInvRpt** and double-click **XXX_APIInvRpt.rdl** to open the SSRS report layout file in Report Builder. Click **Cancel** on the prompt to connect to an SSRS report server. The report definition file displays in Report Builder.
2. In Report Builder, select the **Insert** tab and then select **Table > Table Wizard** to run the **New Table or Matrix** wizard.
3. On the **Choose a dataset** screen, choose your **XXX_APIInvDtlQuery** and click **Next**.
4. Now in the **Arrange fields** screen, click and drag all the fields in the **Available fields** column to the **Values** column.
5. Click **Next**.
6. On the **Choose the Layout** screen, clear all options and click **Next**.
7. Click **Finish** to close the wizard.
8. From the **File** menu, select **Save**. Leave Report Builder open.
9. Go back to **Report Style Maintenance** (this should still be open). From the **Actions** menu, select **Upload SSRS Report**. Select your **desktop** and click **OK**, and click **OK** on confirmation message.



Note In order to upload SSRS report, your account must have the **SSRS Report Designer** privilege enabled in **User Account Security Maintenance**.

Add Menu Item

Add the multiple BAQ report to the menu system in the Epicor ERP application.

1. Open **Menu Maintenance**.
Menu Path: System Setup > Security Maintenance > Menu Maintenance
2. On the **Menu Maintenance** tree, navigate to: **Main Menu > Financial Management > Accounts Payables > Reports**. Verify **Reports** is highlighted.
3. Select **File > New > New Menu**.
4. In the **Menu ID** field, enter **UDXXX02** (where XXX are your initials).
5. 1 In the **Name** field, enter **Custom AP Invoice**.

6. In the **Order Sequence** field, enter **10**.
7. Click the **Program Type** drop-down menu and select **Report**.
8. Click **Report....** and then search for and choose **XXX_APInvRpt**.
9. Click **Save** and click **OK** if you get a security update message.
10. Log out and log back into the **Epicor** application.
11. Open the **Custom AP Invoice** form.
12. Enter the following parameters:

Field	Value
VendorNum	31
Date	today
Company	EPIC06

13. To display the report, click **Print Preview**.

Electronic Reporting

Different countries have different data and formatting requirements for file-based (or hardcopy/printed) electronic reporting. To make the production of such reports more flexible, the Epicor 10 ERP data extraction and output file formatting capabilities allow you to configure data extraction sources and define output file formats in the Electronic Report Maintenance program to support the multiple electronic report file requirements.

Use the Electronic Report Maintenance program to configure and generate electronic report files (both XML and JSON) from reporting data. A report style can be configured to generate either an SSRS report only or an electronic report file only, or both an SSRS report and electronic report file based on the same extracted data.

After you set up the report data definition to use custom BAQs or Electronic Interfaces, you can define an Electronic Report Definition that will control generation of one or more XML or JSON files when it is referenced by a Report Style.

Workshop - Create Electronic Report File

In this workshop, create an electronic report file for the AP Invoice report we have created in the previous workshop. With report data definition set up to use custom BAQs, you will define an Electronic Report Definition that will control generation of an XML file when it is referenced by a Report Style. As the starting point for defining the needed XML output structure, you will import sample XML file and then map fields from the BAQ result sets to the individual nodes in the XML parent/child tree structure. You will then enable the report style to use this electronic report definition and submit the report for generation from the menu already created for the report.

Add Electronic Report Definition

In this task, enter the name of the electronic report definition and select the report data definition for which you want to create the electronic report file.

1. Navigate to the **Electronic Report Maintenance** program.

Menu Path: System Management > Reporting > Electronic Report Maintenance



Important This program is not available in Epicor Web Access.

2. Next to the **New** button on the Standard toolbar, click the Down Arrow and select **New Electronic Report Definition**. The **Definition > Detail** sheet opens.
3. In the **Definition ID** field, enter **XXX_APInvStructured** where XXX are your initials.
4. For **Description**, enter **AP Invoice Structured File**.
5. In the **Report Data Definition** field, enter BAQ definition we created in the previous workshop - **XXX_APIInvoice**.



Note The selected report data definition must contain either BAQs or Electronic Interfaces as a data source.

6. Note the **Description** field displays the RDD description.
7. Review the **SSRS** type of the report data definition in the **Report Type** field.
8. Use the **Internal Comments** field to enter free-form comment text for the electronic report definition.
It can be used to describe why a definition would be updated. The comments are for informational use only and can never be included in the electronic report file.
9. When finished, click **Save**.
When you save the definition, the corresponding fields display the name of the user who created or updated the current electronic report definition as well as the date the electronic report definition is created or updated.

Add New XML File

In this task, you enter the name of the electronic report file and indicate the directory path where you will store this file. You can set up the definition to use either XML or JSON files. In this example, we will add an XML file. The number of files you can add is unlimited.

1. Next to the **New** button on the Standard toolbar, click the **Down Arrow** and select **New XML Output File**. The **Electronic Report Files > Detail** sheet opens.
2. In the **Electronic Report File ID** field, accept the default name for the electronic output file.
The **Description** field displays the description of electronic report definition.
3. In the **Output Location** field, enter **EpicorData\CompanyData\MySubFolder\MyFile{Date}.xml**
When specifying a location and file name, value substitution can be used in the directory path and file name. In this example, the date will be added to the file name.
For more information on output location options, refer to the Electronic Report Maintenance Help.
4. Select the **Enabled** check box to generate the current electronic report file when its definition is submitted in the Report Style Maintenance program.
5. Click **Save**.

Import Sample XML

In this task, you will create a sample xml file and then import this xml file to the Electronic Report Definition with your values. When you import an .xml file, the application creates the definition by copying and modifying the structure of the current .xml file. It allows you to avoid building the entire document structure if you need to customize your report.

1. In a third party application, create a sample xml file (**APInvoiceSample.xml**) with the following structure:

```
<?xml version="1.0" encoding="WINDOWS-1252"?>
<AuditFile xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:OECD:StandardAuditFile-Tax:PT_1.03_01">
  <Header>
    <AuditFileVersion>1.03_01</AuditFileVersion>
    <MonthEndDateFromBAQ/>
    <InvCutoffDateFromRepParms/>
    <CompanyID>Municipal 123</CompanyID>
```

```

<TaxRegistrationNumber>123456789</TaxRegistrationNumber>
<CompanyName/>
<CompanyAddress>
  <City/>
  <State/>
</CompanyAddress>
</Header>
<APIInvoices>
  <APIInvoice>
    <Company>10</Company>
    <VendorNum/>
    <InvoiceNum/>
    <InvoiceDate/>
    <InvoiceLines>
      <InvoiceLine>
        <InvoiceLineNum/>
        <PartNum>GA</PartNum>
      </InvoiceLine>
    </InvoiceLines>
  </APIInvoice>
</APIInvoices>
</AuditFile>

```

2. In the **Electronic Report Maintenance** program, navigate to the **Electronic Report Files > Mapping** sheet.
3. From the **Actions** menu, select **Import Sample XML File and Values**.
The **Open** window displays.
4. Select the **APIInvoiceSample.xml** file and click **Open**.
5. To the import confirmation message, say **OK**.

The tree view displays the imported xml structure with nodes and elements. You can manually add and delete xml nodes and elements.



Tip

- To add a new element and define its values, right-click the element, and from the options list select **Add New Element**.
- To add an element from the data source, right-click the element, and from the options list select **Add New Element form Data Source**

The electronic report file structure allows you to add child elements to any element, including those elements that are not XML attributes, as well as to specify constant values for those elements that have child elements.

In this example, we will not modify the existing xml structure.

6. Click **Save**.

Map Sample XML to Data Source

In this task, map the columns and specified parameters from the BAQ result sets to the individual elements in the XML parent/child tree structure. On the parent level, you map the Header node to the Company Address

query, the APInvoice node to the AP Invoice Header query and the InvoiceLines node to the AP Invoice Details query.

1. In the **Definition** pane, expand the **Audit File** node to view the parent-child tree structure of the imported sample .xml file.
2. Select the **Header** element, and in the **Data Source** section, from the **Data Source** drop-down list, select **XXX_CompAddr**.
Now you can map the Header's child elements to the Company Address query columns.
3. From the **Header** pane, select the **MonthEndDateFromBAQ** child element; in the **Mapping** sheet, clear the **Constant** check box and from the **Column** drop-down list, select **Calculated_CalcEndOfMonthDate**.
This element will get its value from the calculated BAQ field which has been set up in the Company Address query.
4. Map the remaining Header child elements to the corresponding **Company** query columns.
5. Select the **APInvoice** element, and in the **Data Source** section, from the **Data Source** drop-down list, select **XXX_APInvHedQuery**; map the remaining APInvoice child elements to the AP Invoice Header query columns.
6. Select the **InvoiceLines** element, and in the **Data Source** section, from the **Data Source** drop-down list, select **XXX_APInvDtIs**; map the remaining InvoiceLines child elements to the AP Invoice Details query columns.
7. From the **Actions** menu, select **Validate File Structure** to validate the parent-child structure and associated value mappings for xml elements on the selected electronic report file.
If the application encounters a validation error, the corresponding XML element is marked as invalid in the tree view. Resolve the errors.
8. Click **Save**.

Enable Electronic Report Definition on Report Style

In this task, use the Report Style Maintenance program to enable generation of the electronic report file when you submit the report for generation.

1. Open **Report Style Maintenance**.

Menu Path: System Management > Reporting > Report Style



Important This program is not available in Epicor Web Access.

2. For **Report ID**, enter **APInvoiceReport** and press **Tab** key.
3. Navigate to the **Styles > Electronic Report** sheet.
4. From the **Electronic Report Definition** drop-down list, select **AP Invoice Structured File**.
5. Select the **Enabled** check box.
6. Use the **Require Submission ID** field to specify whether the user must assign a Submission ID before generating the electronic report.

Users can generate the report multiple times under the Submission ID and then use the **Submit** action to flag a version of the report as submitted, for example, to the government. The submission information includes submission ID, submission status, submission date, and the user who created, submitted, and last generated the report. When submission IDs are required, the last set of report parameters used and the version submitted are saved and can be re-retrieved under this submission ID.

7. Select the **Allow Multiple Submits** check box to allow users to rerun and resubmit under a submission ID without resetting the submission version counter.
8. Click **Save**.

Generate Electronic Report File

In this task, launch the report form from the Main Menu and generate the electronic report file for the AP Invoice Electronic Report.

1. Open the **Custom AP Invoice** report form we have created in the previous workshop.

Menu Path: Financial Management > Accounts Payables > Reports > Custom AP Invoice

2. In the **Company** field, enter **EPIC06**.
3. In the **Report Style** field, make sure the **BAQ - SSRS - XXX** displays.
4. From **File**, select **Generate Only** to create report file only.

The **Report submitted for generation** text displays at the bottom of the form.



Note If you need to modify SSRS Report Definition for this electronic report file, use the **File > Generate for Design** option to generate a report for design only. For more information on generating reports for design, refer to the Workshop - Generate Report for Design in this course.

5. In System Monitor, go to **History Tasks > List** to view the report has been generated without errors.
6. Now navigate to the report location folder and view the electronic report file.

Submit Generated File

Earlier you have configured the Report Style to require user entry of a Submission ID. The Submission ID allows retrieval and review of the last set of report parameters used. After the report is generated and reviewed, you can assign the Submission ID to the report and flag it as submitted (to a government, for example).

1. In the report form, click **File > New Submission ID**.
2. In the **Submission ID** field, enter the identifier for this report submission.
3. Use the **Comment** text box to enter free-form comment text for the submitted report.
4. From the **Actions** menu, select **Submit**.
5. The selected **Submitted** check box designates the report has been submitted.
6. Use the **Report Date** to view the date when the report was submitted.

7. The **Version Submitted** field displays the value of the Report Submission Counter.
To allow more than one submission, make sure the **Allow Multiple Submissions** check box is selected in the Report Style program.
8. When you submit the report, the corresponding fields display the name of the user who created or updated the current submission as well as the date the submission is created or updated.



Tip To reset submission, from the **Actions** menu, select **Reset**.

Conclusion

Congratulations! You have completed the course.



Additional information is available at the Education and Documentation areas of the EPICweb Customer Portal. To access this site, you need a Site ID and an EPICweb account. To create an account, go to <http://support.epicor.com>.