IBM Db2 Web Query for i New Features

Release 2.4.0

Contents

Chapter 1

Db2 Web Query Version 2.4 - May 2023 - HF2

This documentation describes prerequisites, changes in behavior, known issues, web browser support, and mobile support for the April 2023 - HF1 release.

Note: The May 2023 HF2 release is a maintenance release only. No new features were introduced in this hotfix.

This document is intended for all levels of users, including application developers, administrators, and end users. It is also intended to serve as a quick reference for users upgrading from a prior version.

In this chapter:

Prerequisites

The following topic describes prerequisites for Db2 Web Query 2.4 HF2.

- For 2.4.0, Windows 10 and Windows 11 are certified for the Windows client interfaces.
- Db2 Web Query 2.4.0 is supported on IBM i 7.4 and 7.5. The following options must be installed:
  - 5770SS1 option 43 – Additional Fonts
  - 5770JV1 option 19 - Java SE 11 64 bit
- For IBM i 7.4, the Java (5770JV1) group PTF SF99665 must be installed at level 10 or higher.
- For the OS level, the 5770DG1 group PTF must be applied at the specified minimum level or higher:
  - 7.5 - SF99952 level 06
  - 7.4 - SF99962 level 31

Changes in Behavior

The following topics describe changes in behavior for Db2 Web Query 2.4 HF2.

Data Migrator Function Assist

The following table describes Data Migrator functions that have been replaced with SQL functions.

Data Migrator Function	SQL Function
PREVIOUS	LAG
RUNNING_SUM	SUM
INCREASE	INCREASE
PCT_INCREASE	PCT_INCREASE

Note:

- The Data Migrator INCREASE and PCT_INCREASE functions rely on the order of the data in the request. This is replaced in the SQL functions with the ability to define the sort order.
- The legacy Data Migrator functions are still available. Updates to Data Migrator will not affect existing code.

Known Issues

The following topics describe known issues in Db2 Web Query.

&MR_FULL_FEXNAME Variable

When running a report from the Web Query home page that contains the &MR_FULL_FEXNAME variable in a header, the variable is not getting resolved and instead the user is prompted to enter a value for the variable. When a value for the &MR_FULL_FEXNAME variable is entered, the report runs.

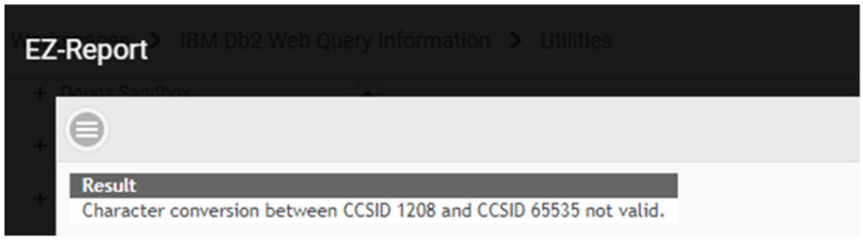
Multi-Task Schedules

Opening a multi-task schedule in the MR interface (browser) silently removes the additional tasks, without notifying the user, when the *Save* or *Save As* option is used.

Workaround: The *Save* and *Save As* options from Developer Workbench do not have this issue when editing a multi-task schedule.

EZ-Report

The EZ-Report utility fails on IBM i releases 7.4 and 7.5 with a 'Character conversion between CCSID 1208 and CCSID 65535 not valid' message, as shown in the following image.

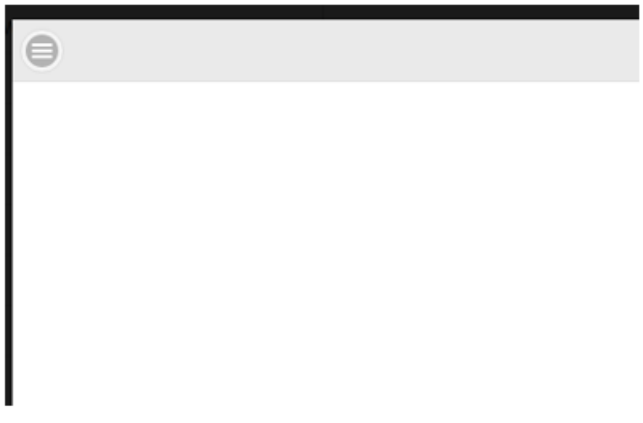


To resolve the problem, apply the following 5770SS1 PTF for your IBM i release level:

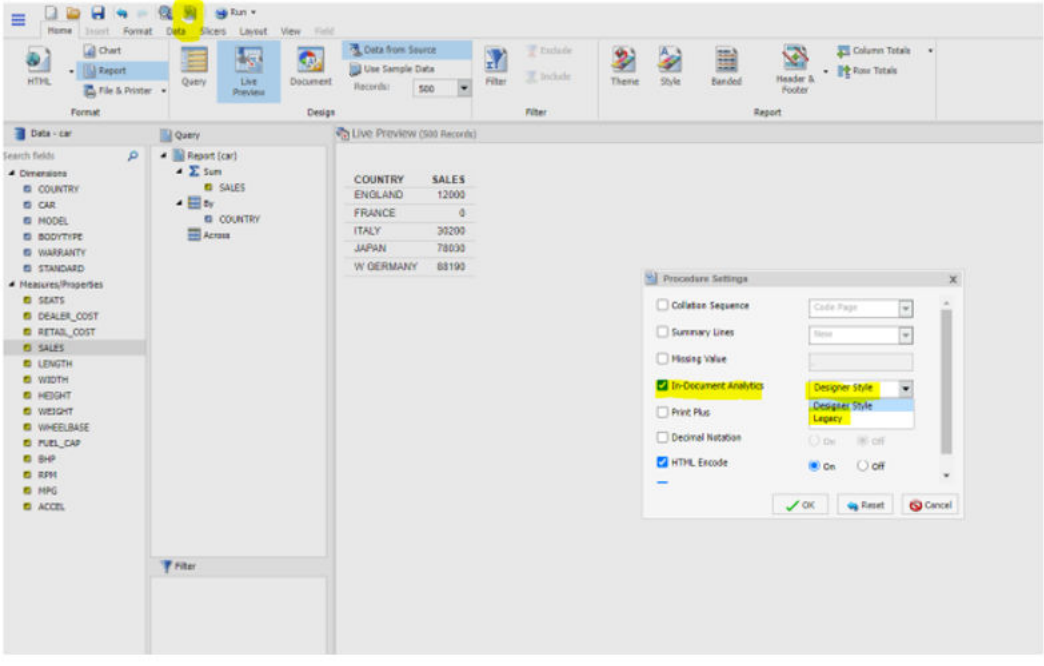
- IBM i 7.5 - PTF SI80256
- IBM i 7.4 - PTF SI80105

Active Reports

When running an active report, the report may appear to load, and then show up blank, as shown in the following image.

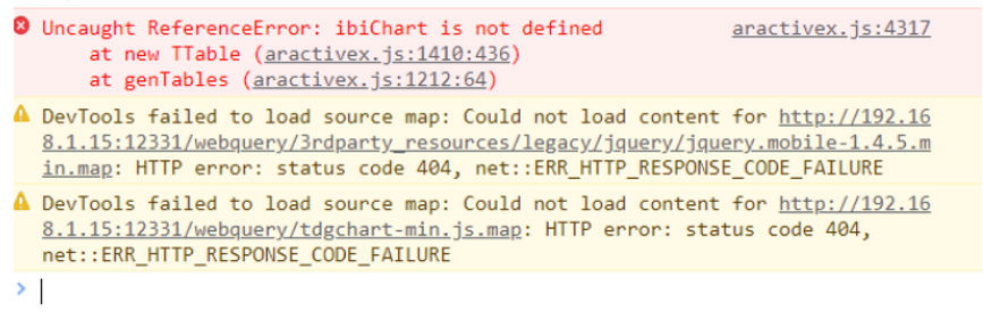


This occurs when a combination of Analytic Document options are enabled, the Advanced Tools option is not enabled, and the Legacy View for In-Document Analytics option is selected in the Procedure Settings dialog box, as shown in the following image.



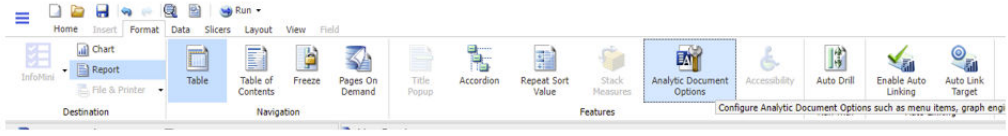
To verify the cause of the blank report, open the Developer Tools in the browser and navigate to the Console tab.

If you see the error *Uncaught Reference Error: ibiChart is not defined*, as shown in the following image, implement the described workaround.

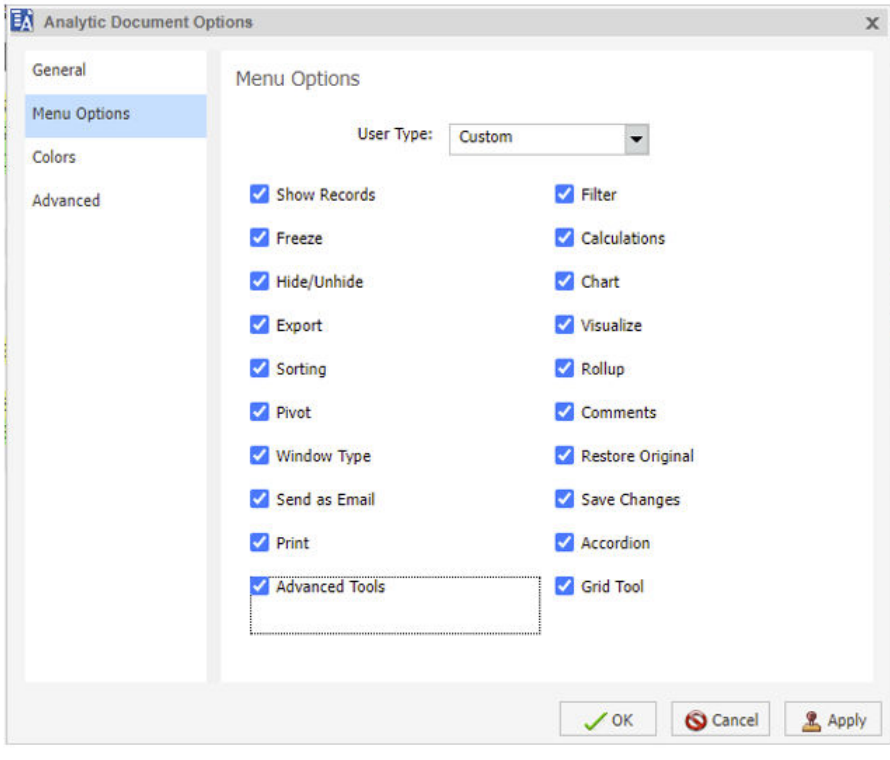


Workaround

1. Edit the report in InfoAssist.
2. Select the *Format* tab and then click *Analytical Document Options*, as shown in the following image.



3. Select *Menu Options* and then select *Advanced Tools*, as shown in the following image.



4. Click *OK* and save the report.

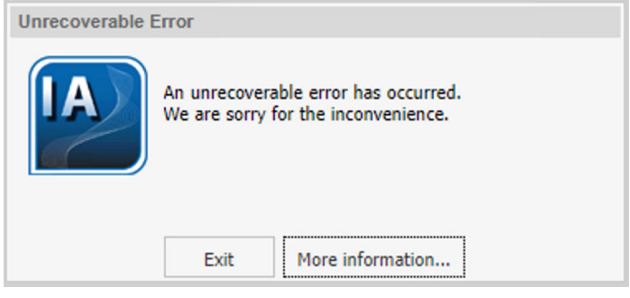
Developer Workbench

This section addresses the known issues for Developer Workbench.

- New SQL reports created with the SQL Report Wizard in Developer Workbench will fail to run with the following error:

  ```
  (FOC205) THE DESCRIPTION CANNOT BE FOUND FOR FILE NAMED: FOCCACHE/SQLOUT
  ```

  New and existing SQL reports created with the SQL Report Wizard cannot be edited in Developer Workbench and will fail with the following error:

  Note: Existing, unedited SQL reports will continue to run.

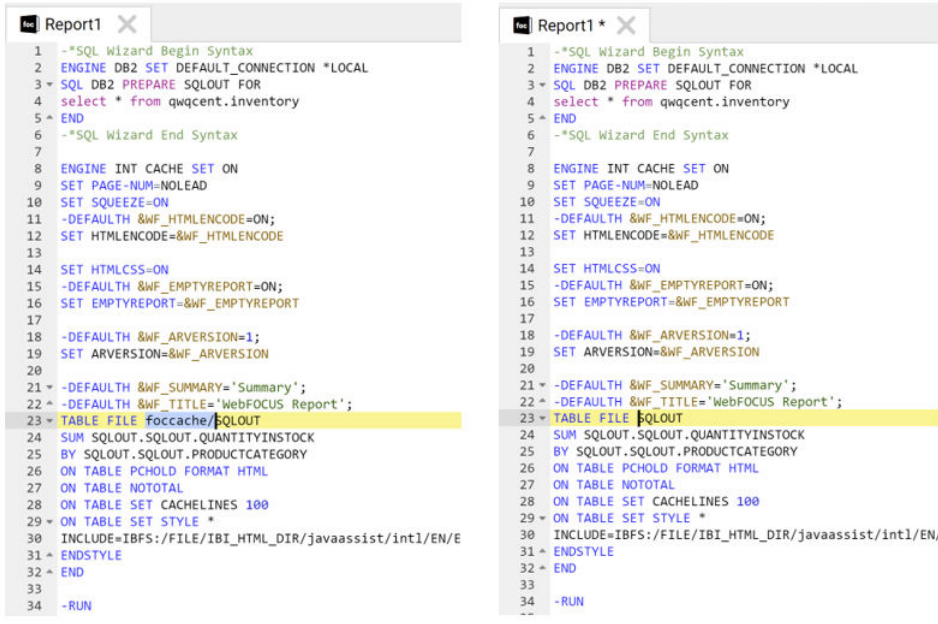
  Workarounds:

  - Alternative and more strategic methods for auto generating a synonym and report over an SQL statement or procedure can be found in the following white paper:

    http://ibm.biz/db2wq-sql-usage-whitepaper

  - A Web Query administrator can text edit the report from the Web Query home page and remove *foccache/* from the *TABLE FILE foccache/SQLOUT* line, so that the resulting line is instead *TABLE FILE SQLOUT*.

The following image shows an example SQL report before and after the change.



- Web Query developers in folder-dba groups cannot create or edit synonyms from the Developer Workbench tree.

  Workaround: Use the Data Management Console in Developer Workbench or use the Reporting Server Console from the browser.

Db2 Web Query Designer

This following is a known issue for Db2 Web Query Designer.

- Db2 Web Query Designer does not yet support running a chart with an output format that embeds graphics, such as PDF and Excel. When creating charts with embedded graphics formats, you can use InfoAssist, available from the Home Page.

REST-Based Application Extension (WQRAX)

This section addresses the known issues for the REST-Based Application Extension (WQRAX).

- Certain types of reports, including visualizations which utilize some maps, will not render properly when invoked through WQRAX.

- You must edit HTML Composer dashboards that were created prior to Web Query 2.1.0 group PTF level 13 or 2.1.1 group PTF level 2 for compatibility with current fix levels. Otherwise, they will not run in WQRAX.

  Workaround: Either edit and save the HTML file in the Developer Workbench HTML canvas, which will make the changes automatically, or edit and save the HTML dashboard using the following steps:

  1. Sign in to Web Query using a Web Query Administrator user ID.
  2. On the BI Portal resource tree, right-click the HTML dashboard file and select *Edit*.

     Note: If you do not see an Edit option, then the dashboard is already at a current version and these steps do not apply.
  3. In the text editor, click *Search* and then *Find*.
  4. Type */webquery/ibi_html* in the Find What: box.
  5. Type *./ibi_html* in the Replace With: box.
  6. Click the *Replace All* button.
  7. Click the *Save* button on the toolbar.
  8. Click *File* and then *Exit*.

Business Intelligence Portal

This section addresses the known issues for BI Portal.

Upload Data and Upload Wizard

- The Upload Wizard fails in BI portal (Legacy mode).
- NLS characters are not supported in the following places when using the Upload Data and Upload Wizard:
  - Excel Worksheet name.
  - Folder name from where the Upload Wizard is being launched.

  Workaround: Use invariant (A-Z and 0-9) characters. Support for NLS characters will be added in a future hotfix.
- Run-Time Enablement (RTE) may cause the Upload Wizard to fail. This will happen if the user's current library (CURLIB) is not defined in the user's active RTE environment. The Upload Wizard writes out a temporary file during the upload process.

  Workaround: It is recommended to add both QGPL and the user's CURLIB (if different from the default, QGPL) to the user's active RTE environment using the WRKWQRTE command.

Metadata Wizard

- The Metadata Wizard fails in BI portal (Legacy mode).
- The Adapters for Query/400, DB Heritage, and JD Edwards should not be used during the Import Metadata step as these are multi-step Create Synonym processes, which are not yet supported by the Metadata Wizard.

  Workaround: Use the Metadata New option to create synonyms for these Adapter types.

InfoAssist

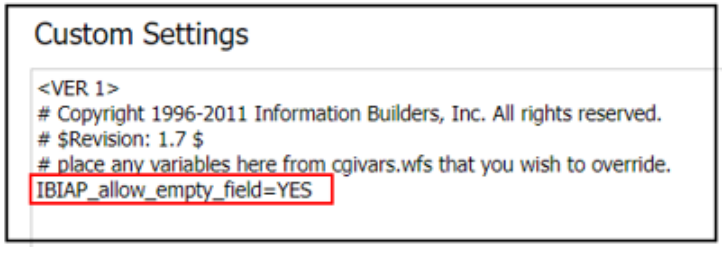
This section addresses the known issues for InfoAssist.

- The 2014 Demographic layers do not render on an ESRI map.
- At run time, a report will fail if empty filter values are entered for simple parameter prompts. To resolve the issue, the Web Query administrator can configure a setting to allow empty values, as follows.

  1. In the Administration Console, on the *Configuration* tab, click *Custom Settings*.
  2. To permit the use of empty fields in filter prompts, type the command:

     ```
     IBIAP_allow_empty_field=YES
     ```

     Type it under the final comment statement at the top of the Custom Settings text box or under the most recent custom setting entry, as shown in the following image.

  3. To store the settings in an encrypted format, select the *Encrypt* check box.
  4. When your configuration is complete, click *Save*.
  5. When you receive a confirmation message, click *OK*.
  6. When the Custom Setting page clears, click *Custom Settings* under the Application Settings folder to see your updated comments, settings, or commands in the Custom Settings text box.

7. If you later decide to prohibit the use of empty fields, change the command to:

   ```
   IBIAP_allow_empty_field=NO
   ```

   Alternatively, you can delete the following command from the Custom Settings page or convert it to a comment if you plan to reactivate this feature.

   ```
   IBIAP_allow_empty_field=YES
   ```

8. When your configuration is complete, click *Save*.

- If you run a request with output to a Db2 file, and you see the following error message, `(FOC36219) AN ERROR OCCURRED WHEN OPENING FILE: HOLD MASTER`, then open the report in InfoAssist and re-save it. This removes the internal directive to save the metadata to an explicit location, as it is not needed in this context.
- The German translation of the visualization filter box for BLANK does not match the run-time option.

JD Edwards Adapters

This section addresses the known issue for the JD Edwards Adapters.

- To use the Alternate Language option in the Adapter for JD Edwards EnterpriseOne and the Adapter for JD Edwards World:

1. Configure the adapter with *UDC Direct File Access* unchecked.
2. Run the *Refresh Metadata* with *Alternate Language File* unchecked.

   This step will create the udcdicdb table.
3. Run the *Refresh Metadata* with *Alternate Language File* checked and enter the default language code.

   This step will create the altdicdb table.
4. Create all the synonyms needed.

Note: Steps 2 and 3 need to be run, as needed, whenever UDC descriptions are updated.

Report Broker

This section addresses the known issue for Report Broker.

- Migration of Public Distribution Lists will generate the following error:

```
ERROR IBFSService                    - setShares - opShareBasic/
opShareAdvanced to this resource denied - user:qwqadmin res:/WFC/
Repository/untitled/ReportBroker/~ownerID/distribution_list.adr
[2014-03-11 00:00:00,605] ERROR IBFSAddrBookConverter            -
Failed to share '/WFC/Repository/untitled/ReportBroker/~ownerID/
distribution_list.adr' with IBFS:/SSYS/GROUPS/EVERYONE
```

  The distribution list will be migrated as a private object. To make this published:

  1. Move the distribution list to a published folder.
  2. Right-click on the distribution list and select the *Publish* option.

Spreadsheet Client

This section addresses the known issue for Spreadsheet Client.

- The data source is not correct when creating a report using metadata that is under the user's top-level folder. By default, Spreadsheet Client shows metadata in the baseapp folder.
- HTML report data is not written into Excel.
- Populating a spreadsheet using a large Excel Add-in request (25 columns, 200K rows) does not return output.

National Language Support

This section addresses the known issues for National Language Support (NLS).

- When the Reporting Server runs in CCSID 285, HTML dashboards fail with JavaScript errors if running in a Firefox or Internet Explorer browser. This is caused by an encoding problem in the IBM Websphere Application Server plugin. To resolve the problem, apply the following PTF for your release level of product 5770DG1:
  - 7.3: SI69363
- Some of the Retail Sample reports will not run in NLS or DBCS languages. This issue will be resolved in an upcoming PTF.

DataMigrator/Data Management Console

Important: The renaming of Application Directories in the Data Management Console is not recommended as it may result in execution failures with the contents of the Application Directory.

Metadata

This section addresses the known issues for metadata.

- Creating a synonym for a Query/400 file from the right-click folder Metadata Edit option does not generate the associated Web Query procedure in the repository. To create Query/400 synonyms, right-click a folder and select the *Metadata New* option.
- Creating a synonym for a Query/400 file fails when it is launched from a subfolder.

Browser Information

The following topics describe information for the available web and mobile browsers for Web Query 2.4.

Web Browsers

The following browsers are certified for Web Query and Developer Workbench.

- Microsoft Edge™ Version 109
- Google Chrome™ Version 109
- Mozilla Firefox® Version 108

Release 2.4 Notes

- Simple HTML reports created by Web Query can be viewed on any browser.
- Chart/Graph request notes:
  - *Browser-generated graphs* refer to graphs that are rendered inside the browser using HTML5 (and JavaScript). Browser-generated graphs are utilized in both standard HTML5 output ("FORMAT JSCHART"), and in Active Technologies ("FORMAT AHTML").

- *Server-generated graphs* refer to graph requests that are generated on the Reporting Server and then embedded as a bitmap or vector image in a document or webpage. This includes the following output formats:
  - Bitmap: PNG, JPG
  - Vector: PDF (but not active PDF), SVG
- Support for presenting images and graphs in HTML, DHTML, and DHTML compound reports is provided using an image embedding facility based on the client browser. Output generated by Internet Explorer browsers or in scenarios where the browser is unknown (such as when distributed by Report Broker) supports image inclusion through the creation of a web archive file (.mht). For all other browsers, images are base64 encoded within the generated .htm file.
- Drill-down links do not work when using an embedded PDF viewer available in some browser versions. Refer to the browser's configuration information on how to change the Application Options settings for the relevant content types so that the browser will automatically use Adobe Reader.
- Adobe Reader support:
  - Acrobat Reader DC is certified
  - Adobe XI is supported
  - Adobe X is supported

Mobile Browser Information

If you are planning to use Web Query on mobile devices, note the following regarding mobile browser support. If you will be using Web Query on the Windows operating system, see the Web Browser support information.

Note: Browsers released after the production date of a Web Query version are subject to certification.

InfoAssist is not supported on mobile devices.

The following devices were used in testing Web Query 2.4:

- iOS 15, 14
- Android 11, 10
- Db2 Web Query mobile app

Usage Considerations:

- Report Broker interfaces are supported on tablets.
- HTML reporting Table of Contents (BYTOC) feature is not supported.
- Viewing PDF, Excel, and PowerPoint documents may require a third-party helper app.
- To open active report content, JavaScript needs to be enabled in your web browser. On mobile devices, please use the Db2 Web Query mobile app. If not installed, download it from the App Store for iOS devices or from the Google Play Store for Android devices.

Chapter 2

Db2 Web Query Version 2.4 - April 2023 - HF1

This documentation describes new features, prerequisites, changes in behavior, known issues, web browser support, and mobile support for the April 2023 - HF1 release.

This document is intended for all levels of users, including application developers, administrators, and end users. It is also intended to serve as a quick reference for users upgrading from a prior version.

In this chapter:

Db2 Web Query for i Enhancements

The following are new feature enhancements that apply to Db2 Web Query for i.

Data Migrator Functions

The following are new Web Query Data Migrator functions.

Aggregation Functions

- **APPROX_COUNT_DISTINCT.** Approximates the count of the number of distinct values within a field or expression.
- **COUNT_BIG.** Counts the number of rows in a specified field or expression. The value is returned as a BIGINT data type.
- **COUNT_BIG(DISTINCT).** Counts the number of distinct occurrences within a field or expression, eliminating duplicate values. The value is returned as a BIGINT data type.
- **PERCENTILE_CONT.** Is an inverse distribution function that assumes a continuous distribution model. It takes a percentile value and a sort specification, and returns an interpolated value that falls into that percentile value with respect to the sort specification.

- **PERCENTILE_DISC.** Is an inverse distribution function that assumes a discrete distribution model. It takes a percentile value and a sort specification and returns an element from the set.

Character Functions

- **WORDPATTERN.** Returns a character string that represents the word pattern of the input string.

Machine Learning Functions

- **RUN_MODEL.** Loads and runs a Python-based Machine Learning model. Use the RUN_MODEL function when the predictor fields in the new data source have the same field names as the predictor fields used to generate the model.
- **RUN_MODEL2.** Loads and runs a Python-based Machine Learning model with override predictors. Use the RUN_MODEL2 function when the predictor fields in the new data source have different field names than the predictor fields used to generate the model.

SQL Analytic Functions

- **AVG(DISTINCT).** Calculates the average of the distinct values, over a group of rows, determined by a partition.
- **CORRELATION.** Calculates the correlation between two fields or expressions, over a group of rows, determined by a partition.
- **COUNT_BIG(DISTINCT).** Counts the number of distinct values within a field or expression, over a group of rows. The value is returned as a BIGINT data type.
- **COUNT_BIG.** Counts the number of rows in a field or expression. The value is returned as a BIGINT data type.
- **COUNT(DISTINCT).** Calculates the count of distinct values in a field or expression, over a group of rows, determined by a partition.
- **CUME_DIST.** Calculates the cumulative distribution of a value in a group of values.
- **INCREASE.** Calculates the difference between a value in the current row and a prior row within a partition.
- **NTH_VALUE.** Retrieves data from the Nth row of a field or expression.
- **NTILE.** Identifies the tile in a sorted data set to which a value belongs.
- **PCT_INCREASE.** Calculates the percentage difference between a value in the current row and a prior row within a partition.

- **PERCENTILE_CONT.** Calculates a field value based on a percentile assuming a continuous distribution model.
- **PERCENTILE_DISC.** Calculates a field value based on a percentile assuming a discrete distribution model.
- **ROW_NUMBER.** Retrieves the number of a row in a result set.
- **SUM(DISTINCT).** Sums the distinct values, over a group of rows, determined by a partition.

SQL Date and Time Functions

- **FISCAL_YEAR.** Returns the fiscal year of the input date.

Prerequisites

The following topic describes prerequisites for Db2 Web Query 2.4 HF1.

- For 2.4.0, Windows 10 and Windows 11 are certified for the Windows client interfaces.
- Db2 Web Query 2.4.0 is supported on IBM i 7.4 and 7.5. The following options must be installed:
  - 5770SS1 option 43 – Additional Fonts
  - 5770JV1 option 19 - Java SE 11 64 bit
- For IBM i 7.4, the Java (5770JV1) group PTF SF99665 must be installed at level 10 or higher.

Changes in Behavior

The following topics describe changes in behavior for Db2 Web Query 2.4 HF1.

Data Migrator Function Assist

The following table describes Data Migrator functions that have been replaced with SQL functions.

Data Migrator Function	SQL Function
PREVIOUS	LAG
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INCREASE	INCREASE
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Note:

- The Data Migrator INCREASE and PCT_INCREASE functions rely on the order of the data in the request. This is replaced in the SQL functions with the ability to define the sort order.
- The legacy Data Migrator functions are still available. Updates to Data Migrator will not affect existing code.

Known Issues

The following topics describe known issues in Db2 Web Query.

High CPU Usage

After starting Web Query, you may encounter a high CPU usage by the jobs WQLIB85 and QP0ZSPWP in the QWEBQRY21 subsystem. While a fix is not yet available, as a workaround, consider removing the PTFs in Web Query group PTF level 1 with the following command:

```
RMVPTF LICPGM(5733WQX) RLS(V2R4M0) SELECT(SI82203) RMV(*PERM) RMVDEP(*YES)
```

&MR_FULL_FEXNAME Variable

When running a report from the Web Query home page that contains the &MR_FULL_FEXNAME variable in a header, the variable is not getting resolved and instead the user is prompted to enter a value for the variable. When a value for the &MR_FULL_FEXNAME variable is entered, the report runs.

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Opening a multi-task schedule in the MR interface (browser) silently removes the additional tasks, without notifying the user, when the *Save* or *Save As* option is used.

Workaround: The *Save* and *Save As* options from Developer Workbench do not have this issue when editing a multi-task schedule.

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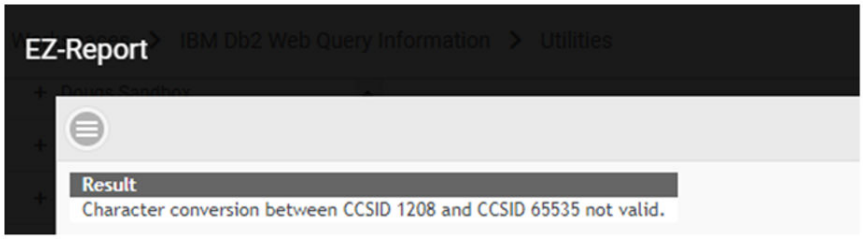

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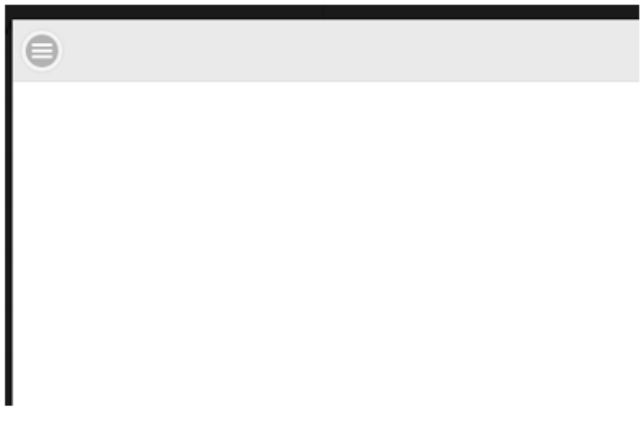

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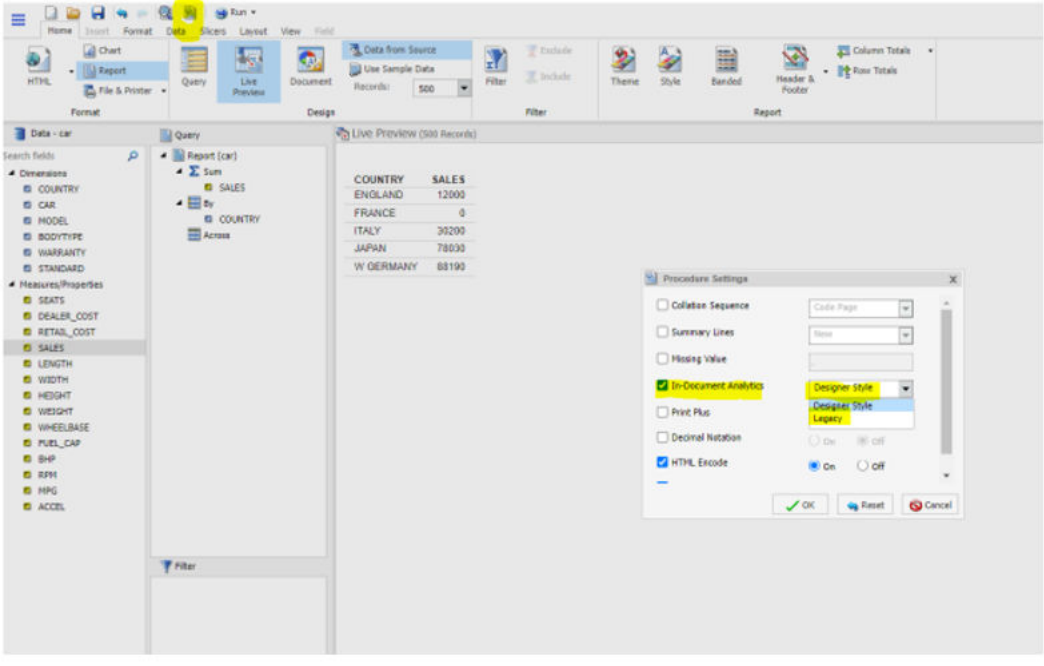

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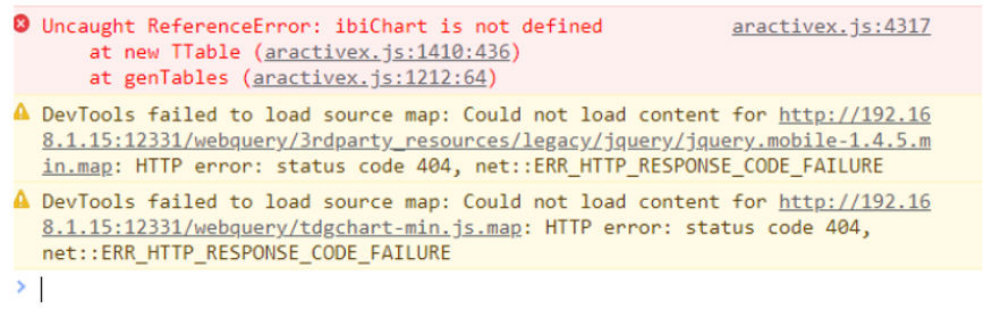

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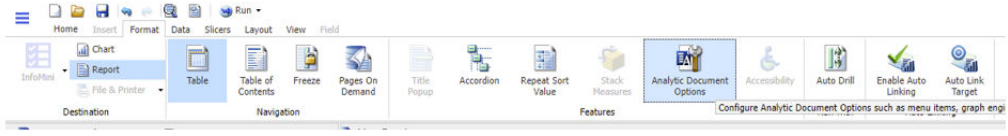

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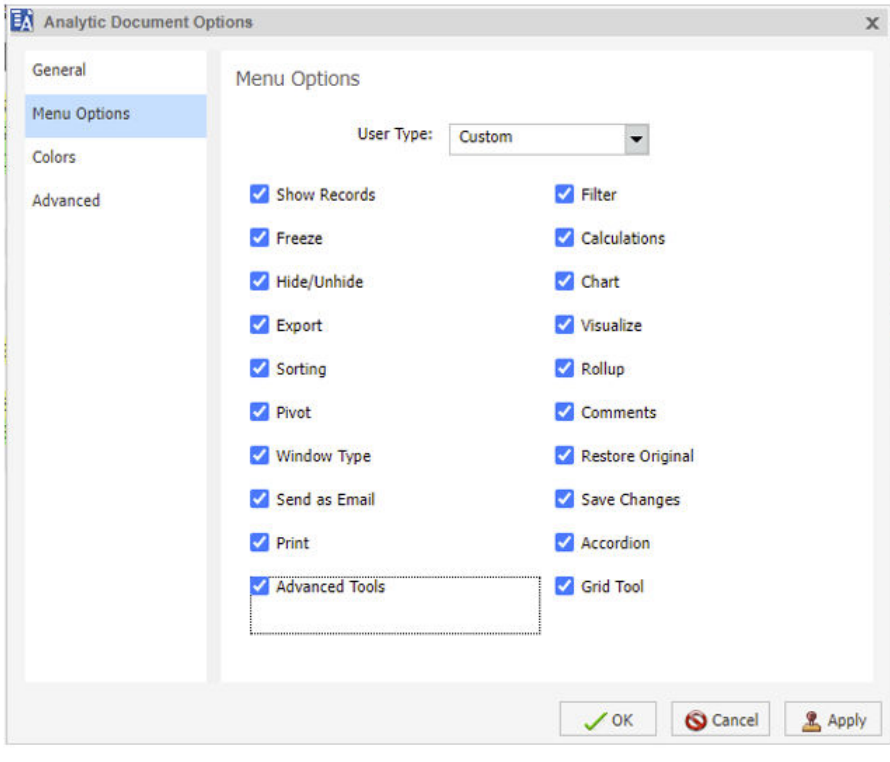

4. Click *OK* and save the report.

Developer Workbench

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  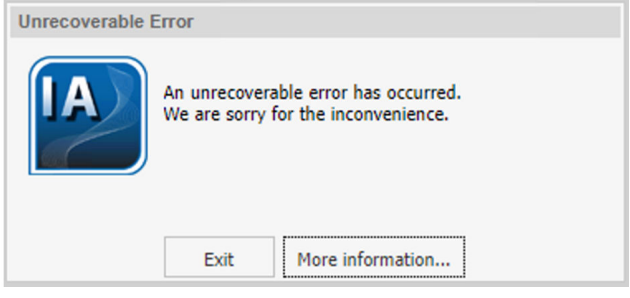

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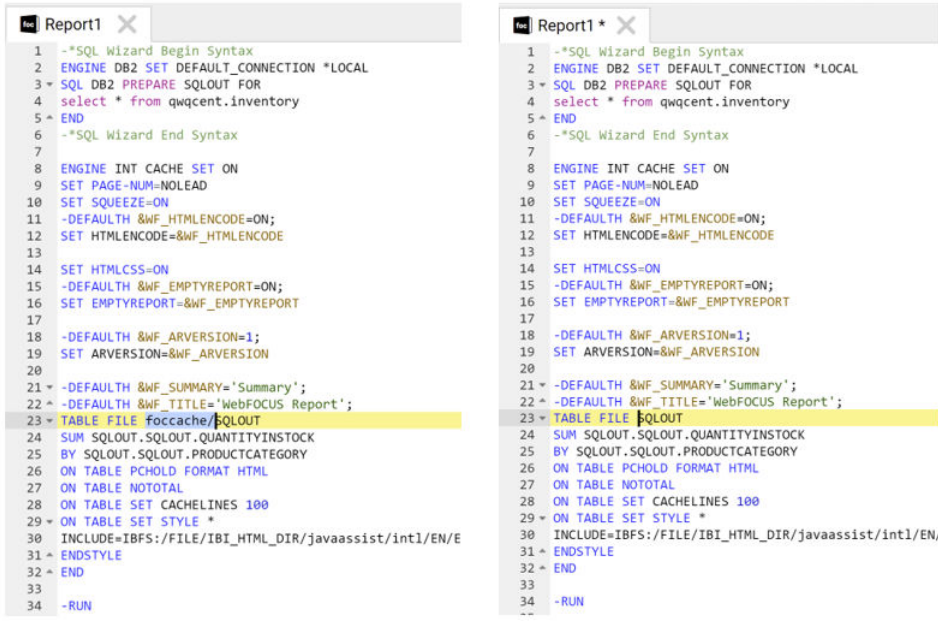
  - A Web Query administrator can text edit the report from the Web Query home page and remove *foccache/* from the *TABLE FILE foccache/SQLOUT* line, so that the resulting line is instead *TABLE FILE SQLOUT*.

The following image shows an example SQL report before and after the change.



- Web Query developers in folder-dba groups cannot create or edit synonyms from the Developer Workbench tree.

  Workaround: Use the Data Management Console in Developer Workbench or use the Reporting Server Console from the browser.

Db2 Web Query Designer

This following is a known issue for Db2 Web Query Designer.

- Db2 Web Query Designer does not yet support running a chart with an output format that embeds graphics, such as PDF and Excel. When creating charts with embedded graphics formats, you can use InfoAssist, available from the Home Page.

REST-Based Application Extension (WQRAX)

This section addresses the known issues for the REST-Based Application Extension (WQRAX).

- Certain types of reports, including visualizations which utilize some maps, will not render properly when invoked through WQRAX.

- You must edit HTML Composer dashboards that were created prior to Web Query 2.1.0 group PTF level 13 or 2.1.1 group PTF level 2 for compatibility with current fix levels. Otherwise, they will not run in WQRAX.

  Workaround: Either edit and save the HTML file in the Developer Workbench HTML canvas, which will make the changes automatically, or edit and save the HTML dashboard using the following steps:

  1. Sign in to Web Query using a Web Query Administrator user ID.
  2. On the BI Portal resource tree, right-click the HTML dashboard file and select *Edit*.

     Note: If you do not see an Edit option, then the dashboard is already at a current version and these steps do not apply.
  3. In the text editor, click *Search* and then *Find*.
  4. Type */webquery/ibi_html* in the Find What: box.
  5. Type *./ibi_html* in the Replace With: box.
  6. Click the *Replace All* button.
  7. Click the *Save* button on the toolbar.
  8. Click *File* and then *Exit*.

Business Intelligence Portal

This section addresses the known issues for BI Portal.

Upload Data and Upload Wizard

- The Upload Wizard fails in BI portal (Legacy mode).
- NLS characters are not supported in the following places when using the Upload Data and Upload Wizard:
  - Excel Worksheet name.
  - Folder name from where the Upload Wizard is being launched.

  Workaround: Use invariant (A-Z and 0-9) characters. Support for NLS characters will be added in a future hotfix.
- Run-Time Enablement (RTE) may cause the Upload Wizard to fail. This will happen if the user's current library (CURLIB) is not defined in the user's active RTE environment. The Upload Wizard writes out a temporary file during the upload process.

  Workaround: It is recommended to add both QGPL and the user's CURLIB (if different from the default, QGPL) to the user's active RTE environment using the WRKWQRTE command.

Metadata Wizard

- The Metadata Wizard fails in BI portal (Legacy mode).
- The Adapters for Query/400, DB Heritage, and JD Edwards should not be used during the Import Metadata step as these are multi-step Create Synonym processes, which are not yet supported by the Metadata Wizard.

  Workaround: Use the Metadata New option to create synonyms for these Adapter types.

InfoAssist

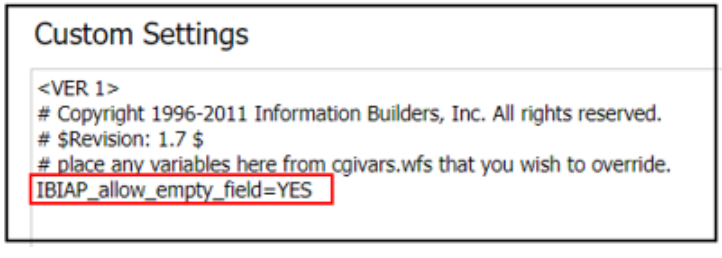
This section addresses the known issues for InfoAssist.

- The 2014 Demographic layers do not render on an ESRI map.
- At run time, a report will fail if empty filter values are entered for simple parameter prompts. To resolve the issue, the Web Query administrator can configure a setting to allow empty values, as follows.

  1. In the Administration Console, on the *Configuration* tab, click *Custom Settings*.
  2. To permit the use of empty fields in filter prompts, type the command:

     ```
     IBIAP_allow_empty_field=YES
     ```

     Type it under the final comment statement at the top of the Custom Settings text box or under the most recent custom setting entry, as shown in the following image.

  3. To store the settings in an encrypted format, select the *Encrypt* check box.
  4. When your configuration is complete, click *Save*.
  5. When you receive a confirmation message, click *OK*.
  6. When the Custom Setting page clears, click *Custom Settings* under the Application Settings folder to see your updated comments, settings, or commands in the Custom Settings text box.

7. If you later decide to prohibit the use of empty fields, change the command to:

   ```
   IBIAP_allow_empty_field=NO
   ```

   Alternatively, you can delete the following command from the Custom Settings page or convert it to a comment if you plan to reactivate this feature.

   ```
   IBIAP_allow_empty_field=YES
   ```

8. When your configuration is complete, click *Save*.

- If you run a request with output to a Db2 file, and you see the following error message, `(FOC36219) AN ERROR OCCURRED WHEN OPENING FILE: HOLD MASTER`, then open the report in InfoAssist and re-save it. This removes the internal directive to save the metadata to an explicit location, as it is not needed in this context.
- The German translation of the visualization filter box for BLANK does not match the run-time option.

JD Edwards Adapters

This section addresses the known issue for the JD Edwards Adapters.

- To use the Alternate Language option in the Adapter for JD Edwards EnterpriseOne and the Adapter for JD Edwards World:

1. Configure the adapter with *UDC Direct File Access* unchecked.
2. Run the *Refresh Metadata* with *Alternate Language File* unchecked.

   This step will create the udcdicdb table.
3. Run the *Refresh Metadata* with *Alternate Language File* checked and enter the default language code.

   This step will create the altdicdb table.
4. Create all the synonyms needed.

Note: Steps 2 and 3 need to be run, as needed, whenever UDC descriptions are updated.

Report Broker

This section addresses the known issue for Report Broker.

- Migration of Public Distribution Lists will generate the following error:

```
ERROR IBFSService                    - setShares - opShareBasic/
opShareAdvanced to this resource denied - user:qwqadmin res:/WFC/
Repository/untitled/ReportBroker/~ownerID/distribution_list.adr
[2014-03-11 00:00:00,605] ERROR IBFSAddrBookConverter            -
Failed to share '/WFC/Repository/untitled/ReportBroker/~ownerID/
distribution_list.adr' with IBFS:/SSYS/GROUPS/EVERYONE
```

  The distribution list will be migrated as a private object. To make this published:

  1. Move the distribution list to a published folder.
  2. Right-click on the distribution list and select the *Publish* option.

Spreadsheet Client

This section addresses the known issue for Spreadsheet Client.

- The data source is not correct when creating a report using metadata that is under the user's top-level folder. By default, Spreadsheet Client shows metadata in the baseapp folder.
- HTML report data is not written into Excel.
- Populating a spreadsheet using a large Excel Add-in request (25 columns, 200K rows) does not return output.

National Language Support

This section addresses the known issues for National Language Support (NLS).

- When the Reporting Server runs in CCSID 285, HTML dashboards fail with JavaScript errors if running in a Firefox or Internet Explorer browser. This is caused by an encoding problem in the IBM Websphere Application Server plugin. To resolve the problem, apply the following PTF for your release level of product 5770DG1:
  - 7.3: SI69363
- Some of the Retail Sample reports will not run in NLS or DBCS languages. This issue will be resolved in an upcoming PTF.

DataMigrator/Data Management Console

Important: The renaming of Application Directories in the Data Management Console is not recommended as it may result in execution failures with the contents of the Application Directory.

Metadata

This section addresses the known issues for metadata.

- Creating a synonym for a Query/400 file from the right-click folder Metadata Edit option does not generate the associated Web Query procedure in the repository. To create Query/400 synonyms, right-click a folder and select the *Metadata New* option.
- Creating a synonym for a Query/400 file fails when it is launched from a subfolder.

Browser Information

The following topics describe information for the available web and mobile browsers for Web Query 2.4.

Web Browsers

The following browsers are certified for Web Query and Developer Workbench.

- Microsoft Edge™ Version 109
- Google Chrome™ Version 109
- Mozilla Firefox® Version 108

Release 2.4 Notes

- Simple HTML reports created by Web Query can be viewed on any browser.
- Chart/Graph request notes:
  - *Browser-generated graphs* refer to graphs that are rendered inside the browser using HTML5 (and JavaScript). Browser-generated graphs are utilized in both standard HTML5 output ("FORMAT JSCHART"), and in Active Technologies ("FORMAT AHTML").

- *Server-generated graphs* refer to graph requests that are generated on the Reporting Server and then embedded as a bitmap or vector image in a document or webpage. This includes the following output formats:
  - Bitmap: PNG, JPG
  - Vector: PDF (but not active PDF), SVG
- Support for presenting images and graphs in HTML, DHTML, and DHTML compound reports is provided using an image embedding facility based on the client browser. Output generated by Internet Explorer browsers or in scenarios where the browser is unknown (such as when distributed by Report Broker) supports image inclusion through the creation of a web archive file (.mht). For all other browsers, images are base64 encoded within the generated .htm file.
- Drill-down links do not work when using an embedded PDF viewer available in some browser versions. Refer to the browser's configuration information on how to change the Application Options settings for the relevant content types so that the browser will automatically use Adobe Reader.
- Adobe Reader support:
  - Acrobat Reader DC is certified
  - Adobe XI is supported
  - Adobe X is supported

Mobile Browser Information

If you are planning to use Web Query on mobile devices, note the following regarding mobile browser support. If you will be using Web Query on the Windows operating system, see the Web Browser support information.

Note: Browsers released after the production date of a Web Query version are subject to certification.

InfoAssist is not supported on mobile devices.

The following devices were used in testing Web Query 2.4:

- iOS 15, 14
- Android 11, 10
- Db2 Web Query mobile app

Usage Considerations:

- Report Broker interfaces are supported on tablets.
- HTML reporting Table of Contents (BYTOC) feature is not supported.
- Viewing PDF, Excel, and PowerPoint documents may require a third-party helper app.
- To open active report content, JavaScript needs to be enabled in your web browser. On mobile devices, please use the Db2 Web Query mobile app. If not installed, download it from the App Store for iOS devices or from the Google Play Store for Android devices.

Chapter 3

Db2 Web Query Version 2.4 - December 2022 - GA

This documentation describes new features, prerequisites, changes in behavior, known issues, web browser support, and mobile support for the December 2022 - 2.4 GA release.

This document is intended for all levels of users, including application developers, administrators, and end users. It is also intended to serve as a quick reference for users upgrading from a prior version.

In this chapter:

Db2 Web Query for i Enhancements

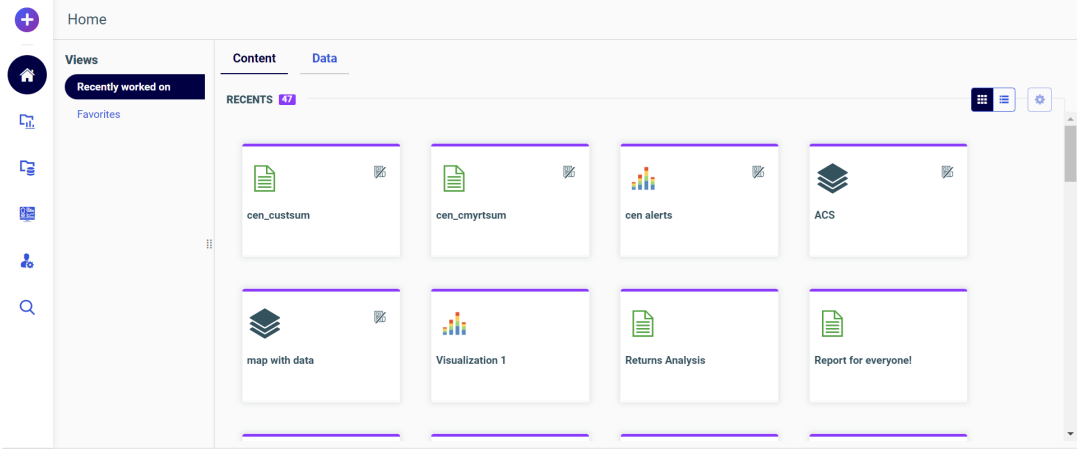
The following are new feature enhancements that apply to Db2 Web Query for i.

Deployment Guide/Best Practices

A new Deployment Guide/Best Practices document is available on the Db2 Web Query for i Wiki at *https://ibm.biz/db2wq-wiki*. It provides a summary of best practices for securing and deploying the Db2 Web Query for i product. Topics include securing the Web Query environment with Transport Layer Security (TLS) protocol, performing routine backups, managing user access, and organizing workspaces.

Db2 Web Query for IBM i Hub

The new Db2 Web Query Hub provides navigation to all areas of Web Query, serving as a unified tool that offers consolidated authoring capabilities and a seamless administrative experience. In this new version, you can see your recent and favorite items from both the Web Query Client and the Reporting Server straight from the Home view. You can also take a full advantage of the consolidated Page Toolbar, where you can access all your action menus, sort content, toggle between the list and tile views, select columns and more. The new redesigned user interface provides an intuitive way to view and differentiate your content at a glance, as shown in the following image.



Building Portal Applications

The Web Query Portal is an analytical content management system that provides a flexible and interactive environment for both authors and consumers of data analytics. It allows users to access and share content, customize their portal experience, collaborate, and build sophisticated structures for data storytelling.

The key benefits of the portal are:

- Multi-level page navigation, which is useful in organizing large numbers of pages.
- Flexible page layout options for dashboards and InfoApps™.
- Mobile-friendly design that ensures responsive behavior on any device and with any type of content.

- Built-in page filter that is automatically enabled whenever users display parameterized content on a personal page.
- Modern styling featuring clean and streamlined UI and customizable themes.

Procedure: How to Create a Portal

You can create a portal structure in your repository, which you can populate by adding pages. You can also configure the option for users to create personal pages.

1. In the Workspaces area, in the Resources tree, select the workspace or folder where you want to create the portal, click the + *Content* button, point to *Application*, and then click *Portal*.

   The New Portal dialog box opens. There are three tabs in the New Portal dialog box:

   - Properties
   - Layout Options
   - User Menu Options

2. Populate the fields of the Properties tab.

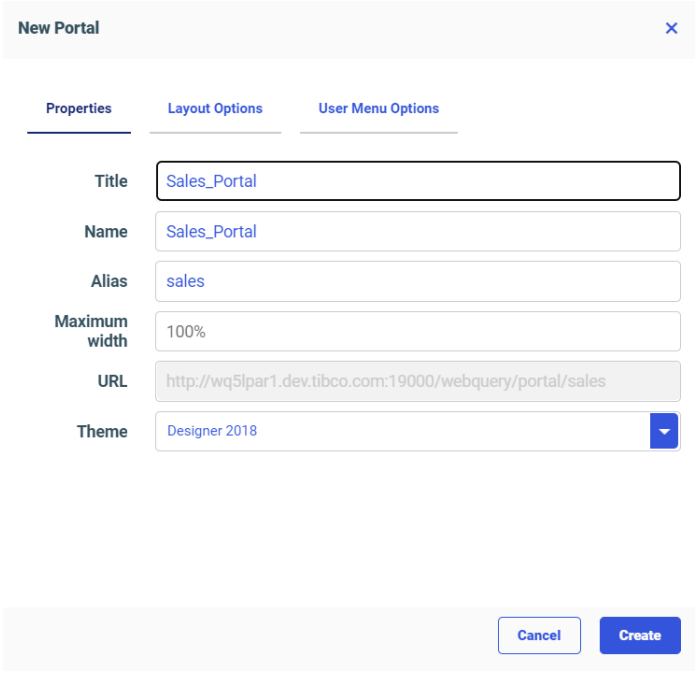
   The following fields are available:

   - **Title.** The title of the portal.
   - **Name.** The name of the portal. This field is populated automatically to match the Title field. You can edit the field with a custom name, if you want.
   - **Alias.** Creates an alias for your portal.
   - **Maximum width.** Controls the maximum width of the portal, which includes the banner, all pages, and side navigation. If specified, overrides the Maximum width property set for pages in the portal.

     Note: The placeholder text changes to a pixel value when you enter a number.
   - **URL.** A read-only field that displays the URL for the portal.

     Note: When you type an Alias value, the URL field automatically changes to reflect the new location.
   - **Theme.** Allows you to select themes that can be customized.

An example of the Properties tab that has been populated with information is shown in the following image.



3. Make your selections in the Layout Options tab.

   The following options are available:

   - **Navigation.** Provides layout selection for your portal. The options are Side Navigation, Top Navigation, and Top & Side Navigation.
   - **Banner.** Provides access to the following options:
     - **Enable banner in portal.** Activates the banner for your portal.

       Note: It is recommended to disable the banner if you plan to embed your portal into a third-party application.

       If this option is enabled, the following options become available:

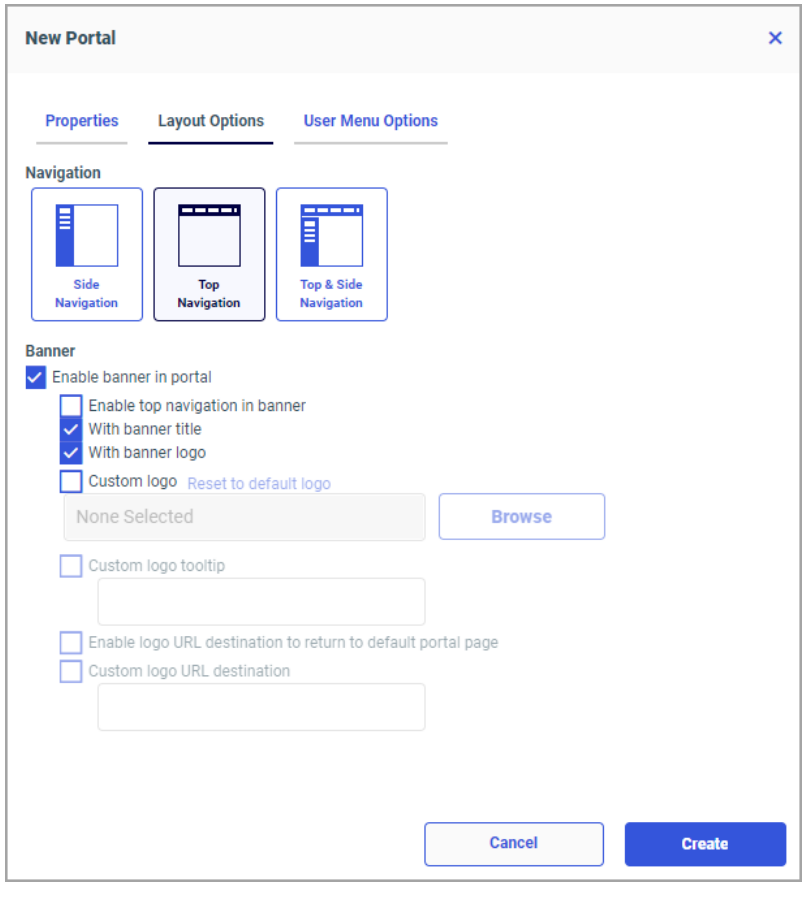
       - **Enable top navigation in banner.** If selected, displays the folder structure as banner links rather than tabs. This option is only available for Top Navigation and Top & Side Navigation layouts.
       - **With banner title.** When selected, displays the title of the portal in the banner.

- **With banner logo.** When selected, displays the portal logo in the banner.
- **Custom logo.** Allows you to customize a logo for your portal.

  If this option is enabled, the following options become available:

  - **Custom logo tooltip.** Allows you to specify the tooltip text for your custom logo.
  - **Enable logo URL destination to return to default portal page.** If enabled, makes your custom logo a clickable object that reverts the portal view to the default portal page.
  - **Custom logo URL destination.** If enabled, allows you to specify a custom URL that will display when your custom logo is clicked.

An example of the Layout Options tab is shown in the following image.



4. Make your selections for the User Menu Options tab.

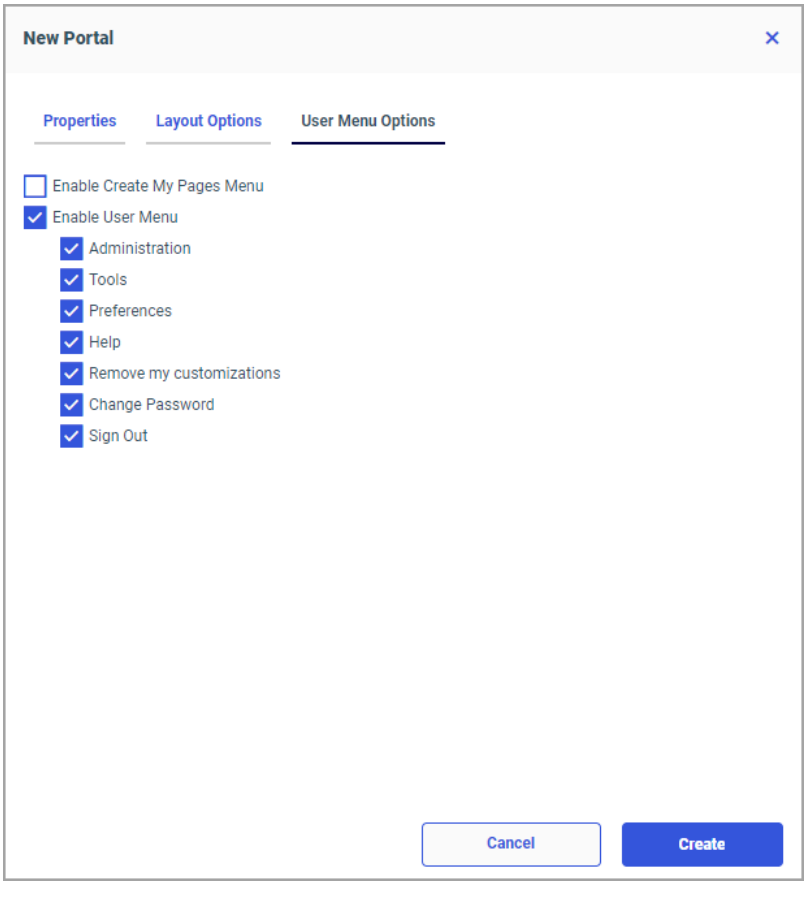
   The following options are available:

   - **Enable Create My Pages Menu.** If selected, allows users to create personal pages at run time.
   - **Enable User Menu.** If selected, displays a user menu inside your portal and allows you to select which options will display in this menu.

     The following user menu options are available: Administration, Tools, Preferences, Help, Remove my customizations, Change Password, and Sign Out.

     Note: These options are subject to user permissions.

   An example of the User Menu Options tab is shown in the following image.



5. Click *Create*.

   The new portal structure is created in the specified workspace or folder. It is now ready to be populated with folders and pages that serve as links to other pages.

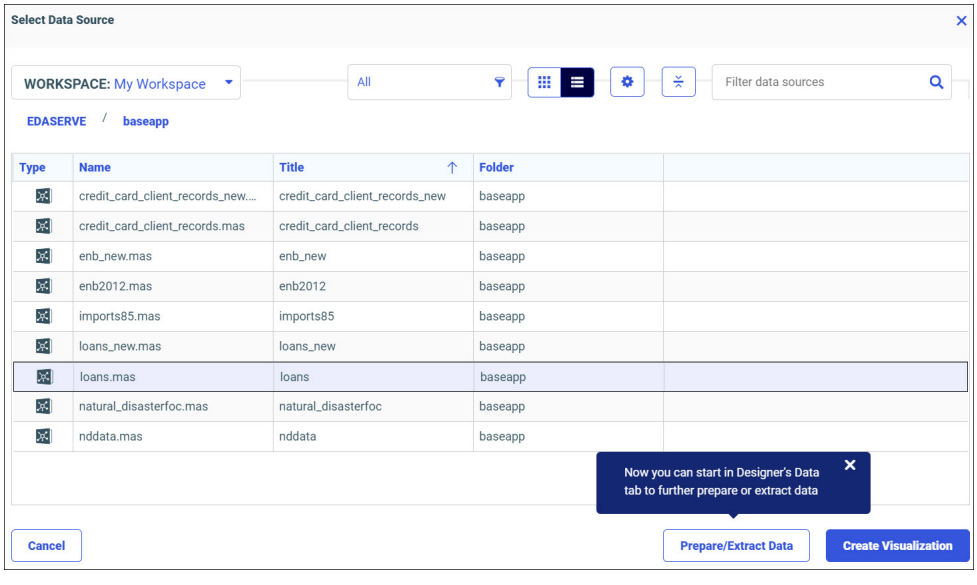
6. To edit your portal, right-click it, and then click *Edit*.

   The Edit Portal dialog box opens, where you can change your selections.

Direct Navigation to the Db2 Web Query for i Designer Data Tab

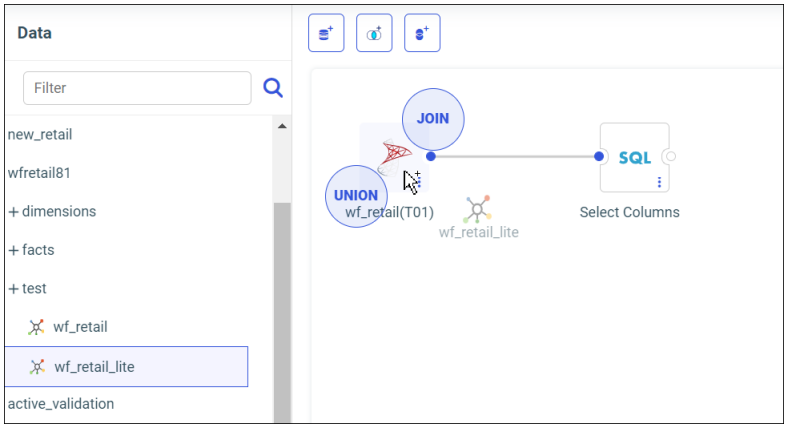
After selecting a data source when creating visualizations, you can now navigate directly to the Designer Data tab to further prepare or extract data, instead of automatically being taken to the Visualization tab.

In the Select Data Source dialog box, you can click a *Prepare/Extract Data* button that directs you to the Designer Data tab.



Db2 Web Query for i Designer Data Tab Enhancements

When authoring content in Designer, new options for enhancing and manipulating data are available within the Data tab. Users can now perform joins and unions with other data sources, change the selection of columns, add new calculations, and filter records based on specified criteria. Additionally, users have access to data profiling information to analyze their resulting data based on the actions performed.



Db2 Web Query for i Designer Page Container Enhancements

When creating pages in Designer, you can now combine, separate, and duplicate containers in new ways directly on the page canvas, allowing you to customize the layout of your page and its contents more quickly and easily.

Drag-and-drop capabilities have been extended, providing another option to combine containers. By default, when you drag a container to a new location on the page, it shifts the existing containers out of the way, allowing you to change the order in which the containers are positioned. To prevent the other containers from shifting, hold the Ctrl key as you drag a container to a new location. If you drop it onto another existing container on the page, you are presented with the option to combine them, and choose the type of multi-content container into which they should be combined. You can combine the containers into a tab, accordion, carousel, or panel group container.

If you create a multi-content container, such as a tab, accordion, or carousel container, by combining them or using the options on the Container tab, you can quickly duplicate it and all of its contents. To do so, right-click it and click *Duplicate Container*. This saves you the time required to re-add each item to a new multi-content container.

Alternatively, you may have multiple containers within a panel group. Panel groups allow you to keep multiple containers together during responsive folding as the screen size shrinks. If you later decide to remove containers from a panel group, you can do so in a couple of ways. To remove a single container from a panel group, right-click it and click *Move to canvas*. To completely disband the panel group but leave the containers on the page, right-click an empty area of the panel group and click *Remove containers from panel group*. The container or containers are added to an empty area of the page.

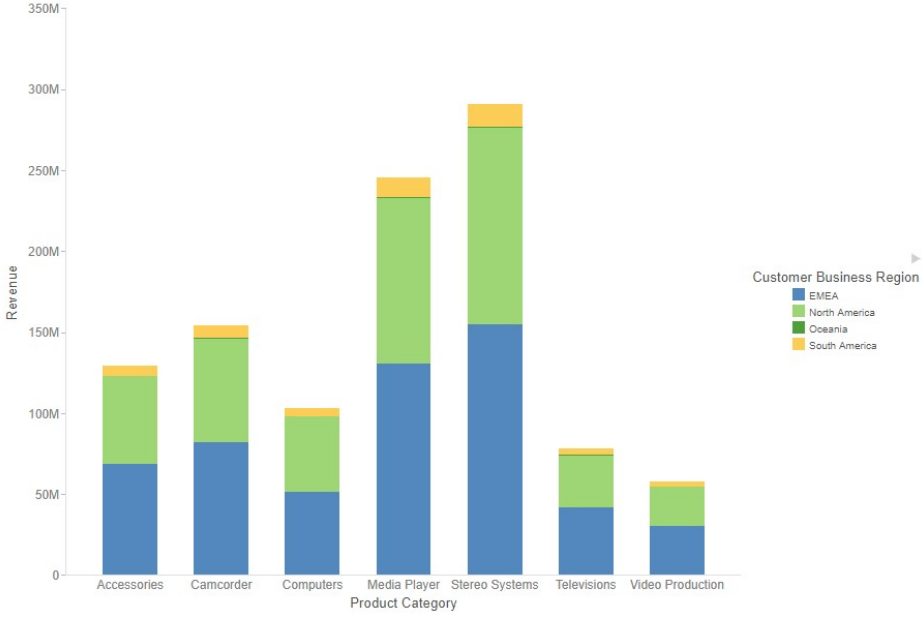
Filtering Auto Drill Results in Charts With Multiple Dimensions

Auto Drill enables you to navigate through different levels within the dimension hierarchy of your data source. This allows you to review underlying data for a particular area, and move through the structure of your data source, based on your informational needs.

When you drill into a report, the result is filtered based on the selected value, and on the related values of any higher level sort fields. All applicable values for lower level fields are shown. Since charts do not have explicit field hierarchies, you can determine how filtering is applied when using Auto Drill in a chart with multiple dimensions, by selecting different options from the run-time menu. This allows you to determine how specific you want your charts to be as you navigate data hierarchies within them, combining the instant usability of Auto Drill with a certain level of user control.

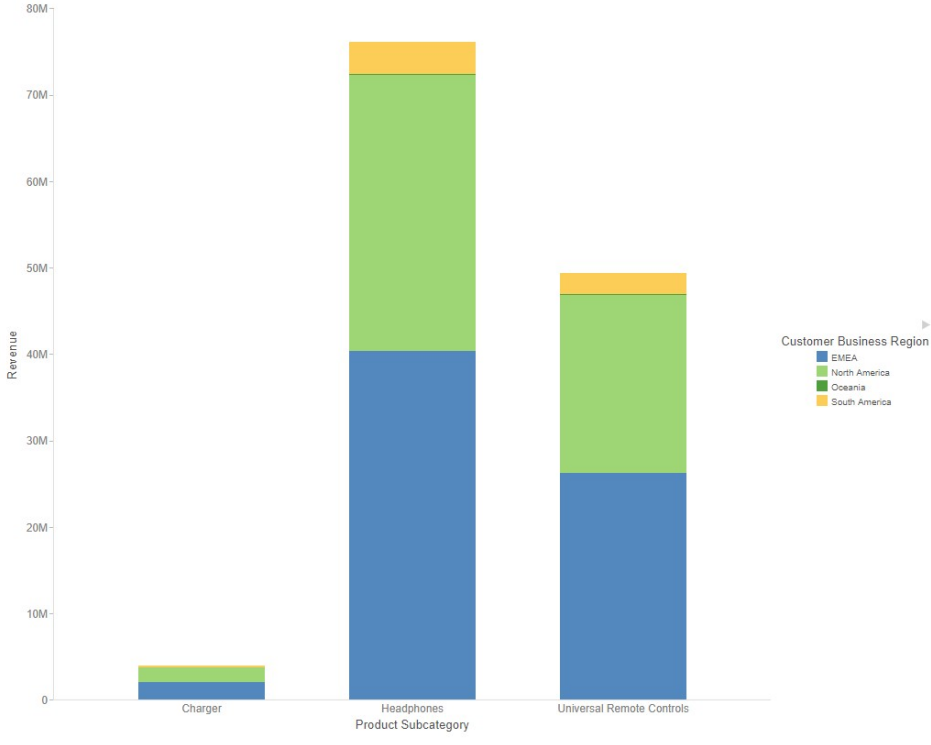
When Auto Drill is enabled for a chart with multiple dimension fields, such as if there is one dimension field in the Horizontal bucket and another in the Color bucket, you can choose whether to apply filters as part of the Auto Drill navigation, based on the run-time option that you select. If you choose to apply filters, then when you drill down into a field hierarchy using Auto Drill, the result drills into the area of the chart that you clicked, and is filtered based on all dimension field values pertinent to that area. If you choose not to apply filters, the dimension that you drill into is replaced with the next field in the hierarchy, filtered for the value of the selected Auto Drill link, and other fields are not filtered. The chart continues to show all applicable values for other dimension fields.

For example, the following image shows a stacked bar chart with the Product Category field in the Horizontal bucket, and the Customer Business Region field in the Color bucket.

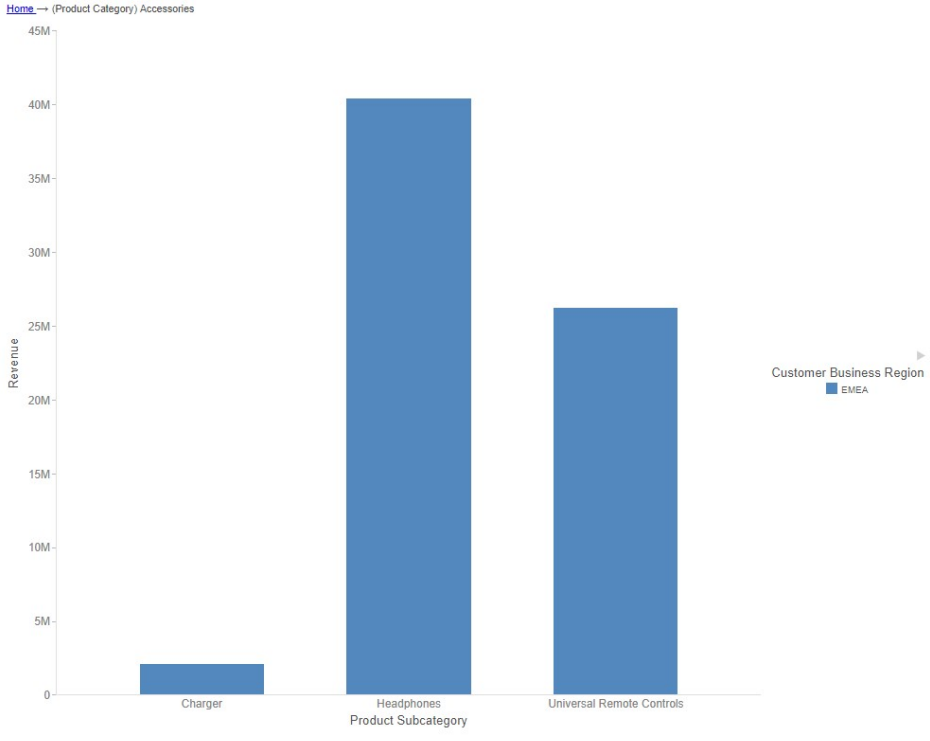


When you run the chart and point to a segment of it, the tooltip shows options to use Auto Drill with or without filters, as shown in the following image.

When you use Auto Drill to drill into the Product Category field from a segment in the Accessories riser, and choose not to apply filters, the resulting chart shows subcategories within Accessories, for all Business Regions, as shown in the following image.



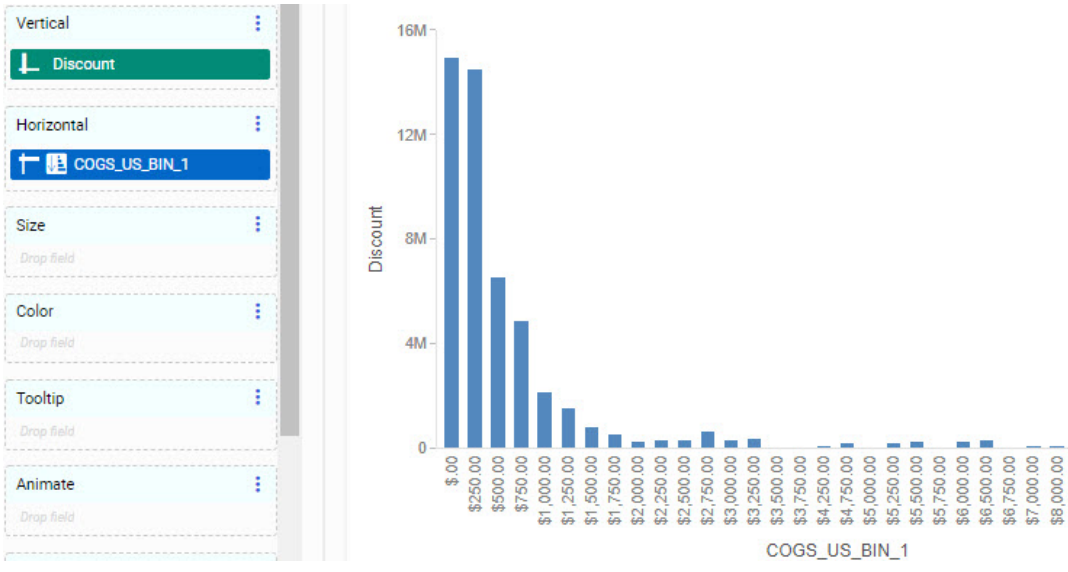
If you drill into Product Category from a segment in the Accessories riser and do apply filters, then the resulting chart only shows the Business Region of the segment that you drilled into, as shown in the following image.



Creating Numeric Ranges With Binning in Db2 Web Query for i Designer

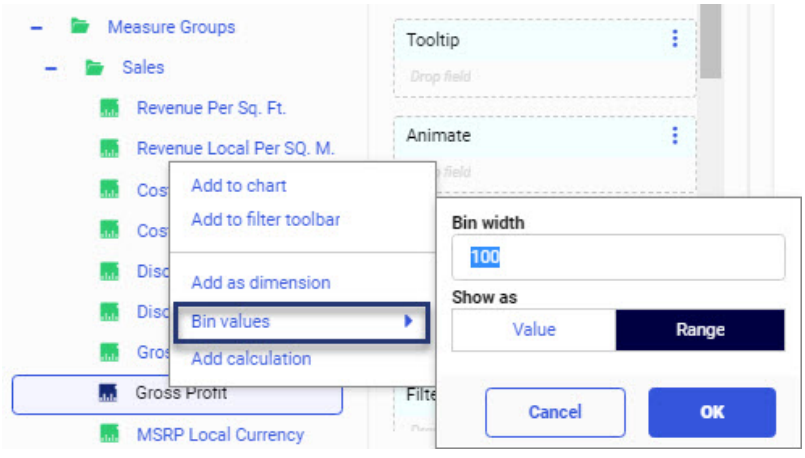
In Designer, bins are used to group numeric values by the increment you specify. This allows you to view large amounts of data across measures or calculated measures, enabling you to analyze trends and identify outliers. Data binning also allows you view your data as part of a larger group, displaying ranges of that data in manageable, visible bins.

For example, you might want to analyze Cost of Goods Sold against Discount to understand how discounts impact the cost of goods. First, you add the Discount measure to the Vertical field container. These values will be used as a guide for the comparative, grouped content in the bin. If you apply a bin width value of 250 to the Cost of Goods measure, your data values will be grouped into ranges of 250 (for example, 0 - 250, 250 - 500, 500 - 750). Finally, you add the new binned dimension field (generated by the bin process) to your chart. Your chart now displays the binned values against the Discount measure, as shown in the following image.



As you can see in this example, there is a direct correlation between Cost of Goods and Discount, with the smaller cost records values (0 - 250) constituting more of the discount amount. From this example, it is evident that a large portion of total discounts are given for lower cost items. In this case, binning has given you insight into the frequency distribution of values in your data.

Bins are created on a numeric measure field (for example, Gross Profit), as shown in the following image.



Examples of numeric measure fields include Gross Profit or Discount. Once you create a bin, a new dimension field is automatically created, allowing you to plot values based on your bin specifications.

You can create or edit bins using the same options. On the Resources panel, right-click a field and click *Bin values*, or right-click a binned field and click *Edit bin values*. This opens a shortcut menu with the following options:

- **Bin width.** A standard text box that accepts any number greater than 0.
- **Show as.** Identifies the bin label type.
  - **Value.** Displays the alphanumeric representation of the numeric value containing the minimum value (FLOOR) of each bin. The format should be set to the data format of the source field.
  - **Range.** Displays the alphanumeric string representing the minimum and maximum range for each bin. The format should be set to the data format of the source field.
- **OK.** Creates a new dimension field based on the bin options that you selected. This dimension field is automatically added under your dimensions in the Fields tab.
- **Cancel.** Closes the shortcut menu and cancels the changes.

The following image displays bin values and bin ranges for the DEALER_COST field, using a bin width of 1000. It also shows how the data falls into the value and range properties.

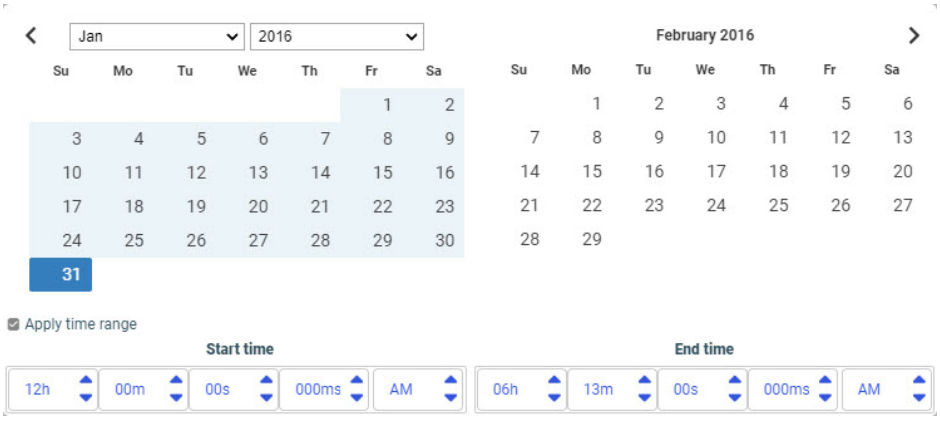
PAGE 1		
DEALER_COST	BINVALUE	BINRANGE
2,626	2,000	2,000 - 2,999
2,886	2,000	2,000 - 2,999
4,292	4,000	4,000 - 4,999
4,631	4,000	4,000 - 4,999
4,915	4,000	4,000 - 4,999
5,063	5,000	5,000 - 5,999
5,660	5,000	5,000 - 5,999
	5,000	5,000 - 5,999
5,800	5,000	5,000 - 5,999
6,000	6,000	6,000 - 6,999
7,427	7,000	7,000 - 7,999
8,300	8,000	8,000 - 8,999
8,400	8,000	8,000 - 8,999
10,000	10,000	10,000 - 10,999
11,000	11,000	11,000 - 11,999
11,194	11,000	11,000 - 11,999
14,940	14,000	14,000 - 14,999
25,000	25,000	25,000 - 25,999

Once you have created a bin, you can edit it. This gives you the flexibility of changing the size of the bin or other related parameters. Changes to the bin values appear in real time.

Filtering Date-Time Fields in Db2 Web Query for i Designer

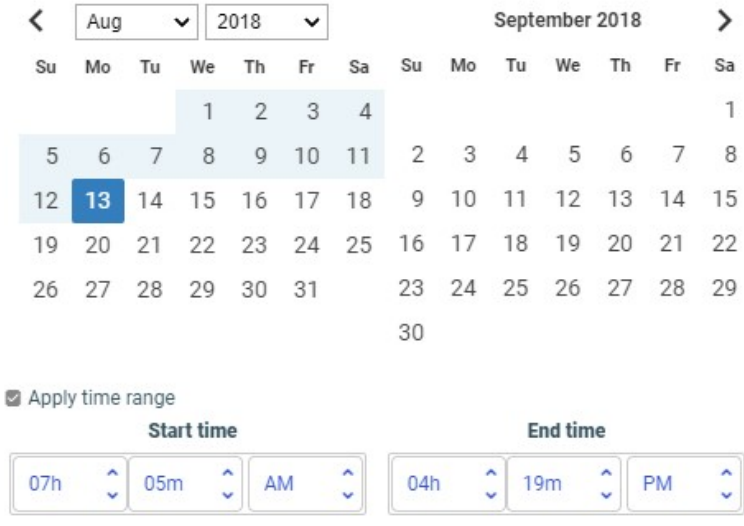
You can filter date-time fields in Designer by specifying the date and the time for the start and end points of a date-time range. This allows you to apply more granular filters to date-time fields, as well as providing the ability to filter within a single day.

When you create a prompted or static filter for a date-time field in a chart, report, or page in Designer, you are presented with the ability to set a time range and change the time zone in addition to the regular date filtering options. When you select ranges for a static filter or use the *Custom* range option for a prompted filter, spinners to set the hour, minute, second, millisecond, and half of the day using a 12-hour system appear below the calendar, as shown in the following image, and you can also type numeric values into them.



The selected start time is applied to the start date in the time range, and the end time is applied to the end date.

The available time components depend on the format of the date-time field being filtered. The following image shows the date-time filter control for a field with a format of HYYMDI, which is precise to the minute level. As a result, only hour and minute time components can be set, and extraneous units of time are not shown.

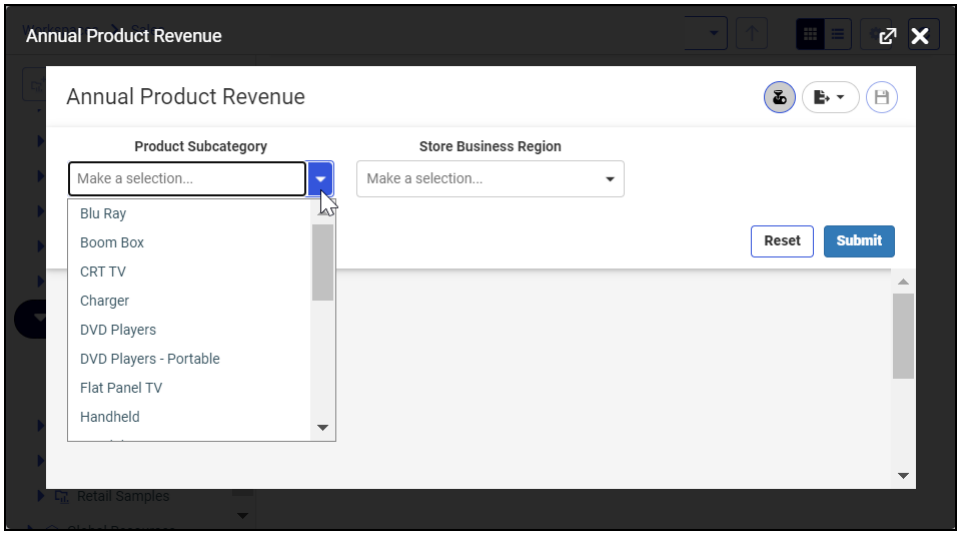


After setting date-time ranges, you can also change the time zone that should be applied to the start and end time, adjusting the filtered data based on the time difference between your location and the location from which the data originated.

New Default Autoprompt Template in Db2 Web Query for i Designer

The Designer Autoprompt template is now the default interface for Designer content containing selection parameters.

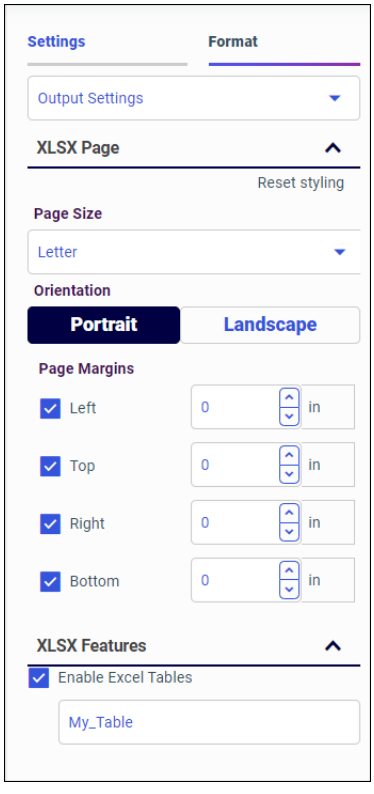
This new default template provides quick and intuitive filtering behavior within a familiar layout that resembles a Designer page. When running content that includes parameters without default values, the Designer Autoprompt page appears first. Users can then provide values for these parameters using automatically-generated controls that are specific to the format and values available for each one, as shown in the following image.



Output Your Data as an Excel Table in Db2 Web Query for i Designer

In Designer, you can now create content and output your data as an Excel table. This lets you easily filter and sort the resulting output in Excel.

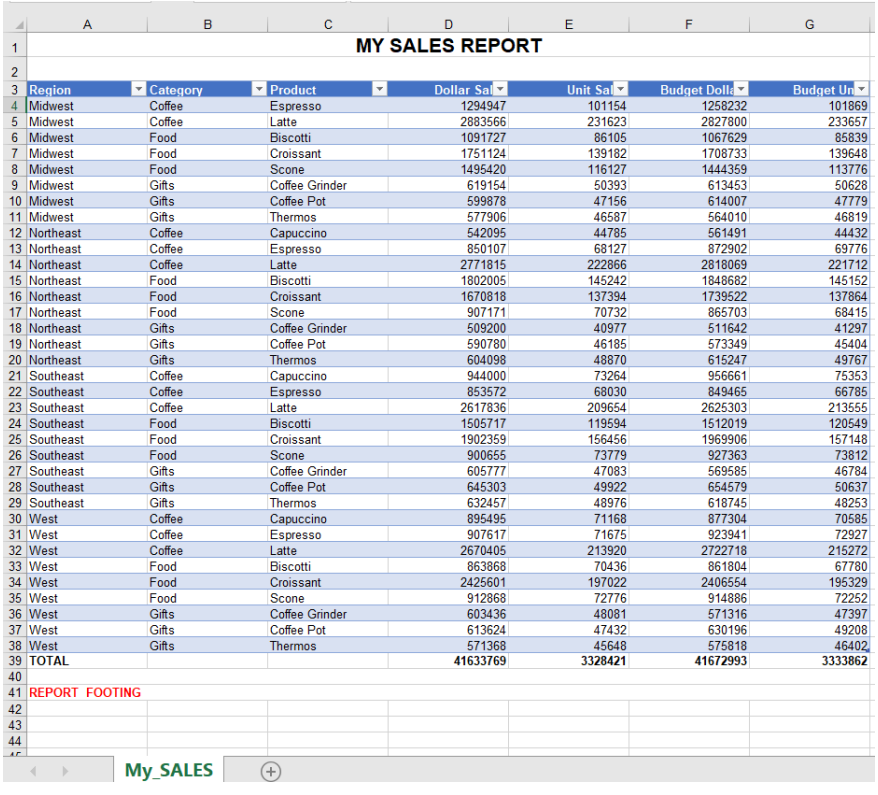
From the Visualization tab, choose XLSX as the output format of your created content, and then select the *Enable Excel Tables* check box within your Output Settings under XLSX Features, as shown in the following image.



Excel Tables

When using Excel XLSX output format, the new Excel Tables feature enables you to group data in a report into a defined table. Using the IN-XLSXTABLE attribute for the TYPE=DATA declaration within a Stylesheet converts an XLSX tabular report generated with FORMAT XLSX into an Excel Table within a worksheet.

By creating an Excel Table, you are automatically given sorting and filtering options on the data in your Excel worksheet, allowing you to further analyze, manipulate, and style the data being presented directly within Excel, as shown in the following image.



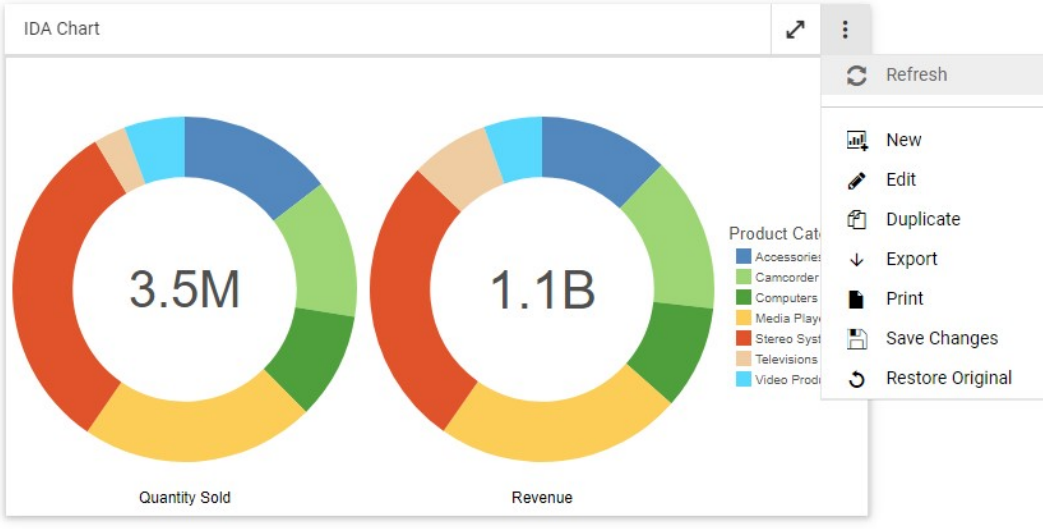
	A	B	C	D	E	F	G
1	MY SALES REPORT						
2							
3	Region	Category	Product	Dollar Sal	Unit Sal	Budget Dolla	Budget Un
4	Midwest	Coffee	Espresso	1294947	101154	1258232	101869
5	Midwest	Coffee	Latte	2883566	231623	2827800	233657
6	Midwest	Food	Biscotti	1091727	86105	1067629	85839
7	Midwest	Food	Croissant	1751124	139182	1708733	139648
8	Midwest	Food	Scone	1495420	116127	1444359	113776
9	Midwest	Gifts	Coffee Grinder	619154	50393	613453	50628
10	Midwest	Gifts	Coffee Pot	599878	47156	614007	47779
11	Midwest	Gifts	Thermos	577906	46587	564010	46819
12	Northeast	Coffee	Capuccino	542095	44785	561491	44432
13	Northeast	Coffee	Espresso	850107	68127	872902	69776
14	Northeast	Coffee	Latte	2771815	222866	2818069	221712
15	Northeast	Food	Biscotti	1802005	145242	1848682	145152
16	Northeast	Food	Croissant	1670818	137394	1739522	137864
17	Northeast	Food	Scone	907171	70732	865703	68415
18	Northeast	Gifts	Coffee Grinder	509200	40977	511642	41297
19	Northeast	Gifts	Coffee Pot	590780	46185	573349	45404
20	Northeast	Gifts	Thermos	604098	48870	615247	49767
21	Southeast	Coffee	Capuccino	944000	73264	956661	75353
22	Southeast	Coffee	Espresso	853572	68030	849465	66785
23	Southeast	Coffee	Latte	2617836	209654	2625303	213555
24	Southeast	Food	Biscotti	1505717	119594	1512019	120549
25	Southeast	Food	Croissant	1902359	156456	1969906	157148
26	Southeast	Food	Scone	900655	73779	927363	73812
27	Southeast	Gifts	Coffee Grinder	605777	47083	569585	46784
28	Southeast	Gifts	Coffee Pot	645303	49922	654579	50637
29	Southeast	Gifts	Thermos	632457	48976	618745	48253
30	West	Coffee	Capuccino	895495	71168	877304	70585
31	West	Coffee	Espresso	907617	71675	923941	72927
32	West	Coffee	Latte	2670405	213920	2722718	215272
33	West	Food	Biscotti	863868	70436	861804	67780
34	West	Food	Croissant	2425601	197022	2406554	195329
35	West	Food	Scone	912868	72776	914886	72252
36	West	Gifts	Coffee Grinder	603436	48081	571316	47397
37	West	Gifts	Coffee Pot	613624	47432	630196	49208
38	West	Gifts	Thermos	571368	45648	575818	46402
39	TOTAL			41633769	3328421	41672993	3333862
40							
41	REPORT FOOTING						
42							
43							
44							

My_SALES

In-Document Analytic Options In Containers on an Assembled Page

In-Document Analytic charts and reports, created using the AHTML output format in Designer, provide a set of interactive options to users at run-time, allowing them to change their view the data used in your content. For example, In-Document Analytics allows you to change the chart type, export the content item, filter the content on-demand, and much more.

When you add an In-Document Analytic item to a page assembled from existing content, the commands that automatically appear in the Options menu integrated into the container on the page. This provides a streamlined and intuitive user interface in panels containing In-Document Analytic content, and also makes it easy to incorporate additional run-time options into your page by using the AHTML output format in your charts and reports. The run-time Options menu for a In-Document Analytic chart in a basic panel container is shown in the following image.



The following menu items are available from the Options menu for an In-Document Analytic report:

- **New.** Launches a chart canvas, where you can place the fields in the original report into different buckets to create a new component.
- **Export.** Allows you to export the data in the chart as an Excel spreadsheet or CSV file, or save the current state of the report as a .html file.
- **Print.** Allows you to print an image of the report.
- **Save Changes.** Saves the In-Document Analytic report, in its current form, as an HTML file.
- **Restore Original.** Returns the report to its original form.

And the following menu items are available for an In-Document Analytic chart:

- **New.** Launches a chart canvas, where you can place the fields in the original chart into different buckets to create a new component.

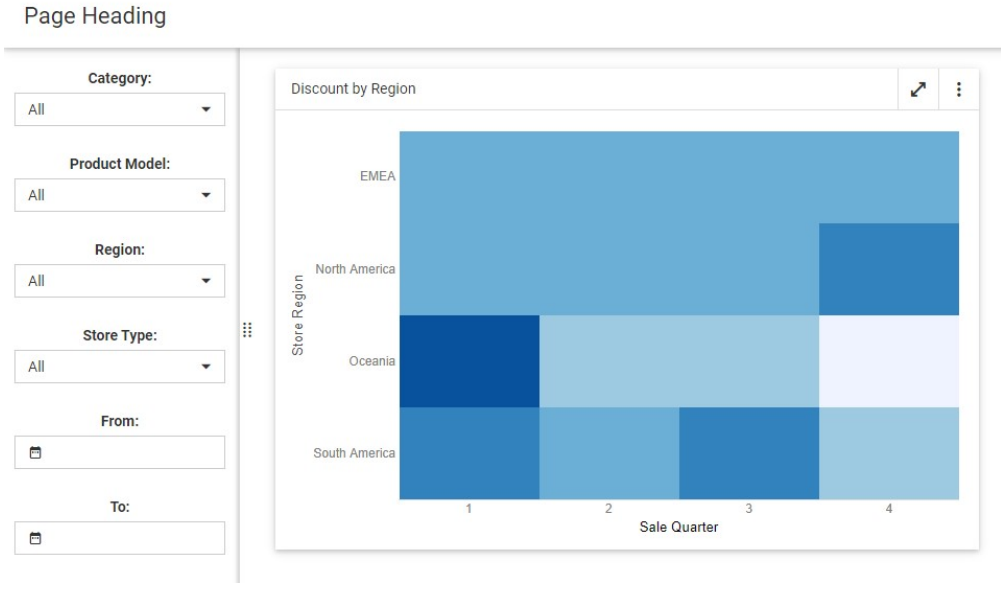
- **Edit.** Opens the chart in a canvas where you can edit it.
- **Duplicate.** Creates a copy of the original chart that you can edit using In-Document Analytic options.
- **Export.** Allows you to export the data in the chart as an Excel spreadsheet or CSV file, or save an image of the chart as a .png file.
- **Print.** Allows you to print an image of the chart.
- **Save Changes.** Saves the In-Document Analytic chart, in its current form, as an HTML file.
- **Restore Original.** Returns the chart to its original form.

Note: The Options menu only appears when using the Designer Style version of In-Document Analytics, which is the default. It does not appear in the container toolbar when using the Legacy version of In-Document Analytics, which is only available for content created in InfoAssist.

Displaying Filter Controls in a Vertical Grid

When you add content with dynamic parameter filters to a page assembled from existing content in Designer, you are automatically prompted to add filter controls for them to the page. By default, these filter controls are arranged in a horizontal filter grid, split into multiple rows, that is located directly below the page toolbar. As an alternative, you can move the filter grid above the page toolbar, into a modal window that you can open and close, or into a scrolling, vertical filter grid that appears on the left side of the page.

The vertical filter grid is a great option when you have a very large number of filter controls, which would take up multiple rows in a horizontal layout, thereby occupying a large amount of space on the page. By using a vertical grid for these controls, they are arranged in a single column within a smaller, fixed area on the left side of the page, where you can use a scrollbar to navigate between them. A basic page with a vertical filter grid is shown in the following image.



To use the vertical filter grid, either before or after adding filter controls to an assembled page, select the entire page by clicking the page toolbar on the canvas, and then click *Left Position* on the Settings tab of the Properties panel. The *Include Page Filters* check box must be selected in order to set the filter grid position.

You can add new cells to the vertical filter grid by right-clicking a cell at design time and clicking *Insert row above* or *Insert row below*. You can then add a Submit and Reset button, a text label, or a filter control for a previously unassigned parameter to the cell. When you run the page, you can adjust the width of the filter grid as needed by pointing to the edge of the grid and dragging it to the left or right.

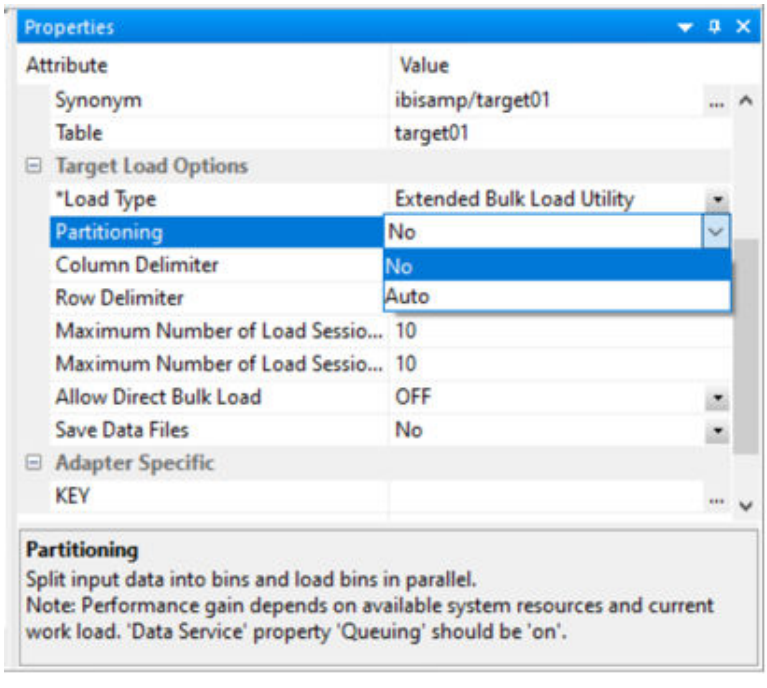
Ability to Copy and Paste Objects Across Data Flows in Data Migrator

When a flow is opened in the canvas of a Data Migrator desktop interface workspace, you can copy one or more objects from an existing flow and paste them into another flow. The copy and paste feature is useful if you need to reuse objects between multiple flows, for example, code (SET variables, Selects on Source, and so on). This feature is less error prone and you can save time working on the design of many flows.

Note: The copy and paste feature is also available in the Reporting Server browser interface.

Performance Enhancement to Data Flow

A new Partitioning option, shown in the following image, has been added to the Target Load Options properties for a regular data flow, direct load flow, and DBMS flow. This feature enables you to partition data with automated bin detection, for better performance in the data flow. The Partitioning option is available only for optimized flows.



All bins contain approximately an equal number of rows. The original request is split into multiple requests, each loading data only for the particular bin. The generated requests are run in parallel, which makes the request more efficient and faster.

Prerequisites

The following topic describes prerequisites for Db2 Web Query 2.4 GA.

- For 2.4.0, Windows 10 and Windows 11 are certified for the Windows client interfaces.
- Db2 Web Query 2.4.0 is supported on IBM i 7.4 and 7.5. The following options must be installed:
  - 5770SS1 option 43 – Additional Fonts
  - 5770JV1 option 19 - Java SE 11 64 bit
- For IBM i 7.4, the Java (5770JV1) group PTF SF99665 must be installed at level 10 or higher.

For a full list of prerequisites, refer to *Release Levels and Prerequisites*.

Changes in Behavior

The following topics describe changes in behavior for Db2 Web Query 2.4 GA.

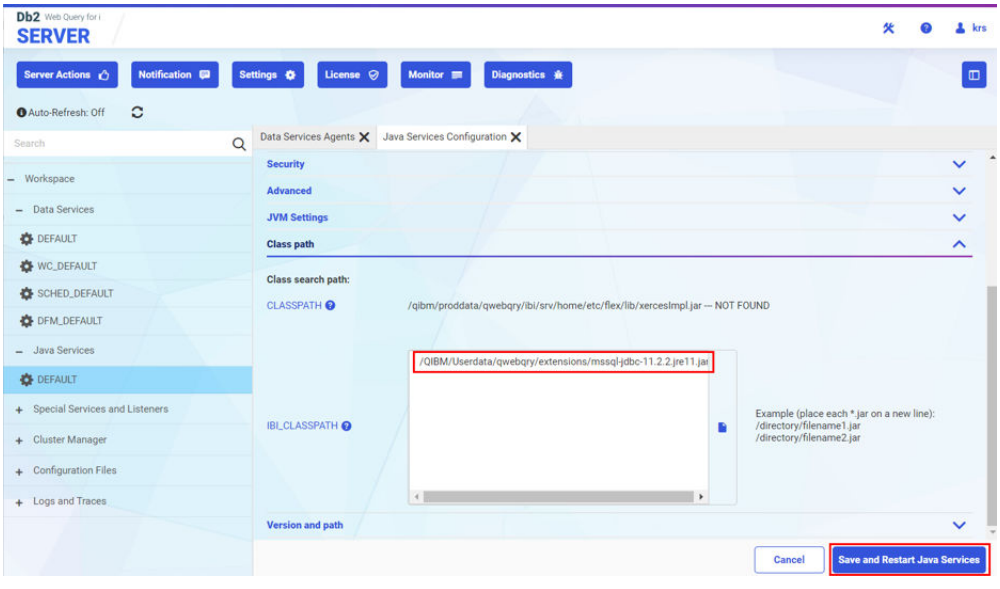
Web Query Data Adapters

Web Query offers several optional data adapters that provide connectivity between the Reporting Server and database servers using JDBC-type 4 drivers. They include the generic JDBC, MySQL, SQL Server, and PostgreSQL adapters.

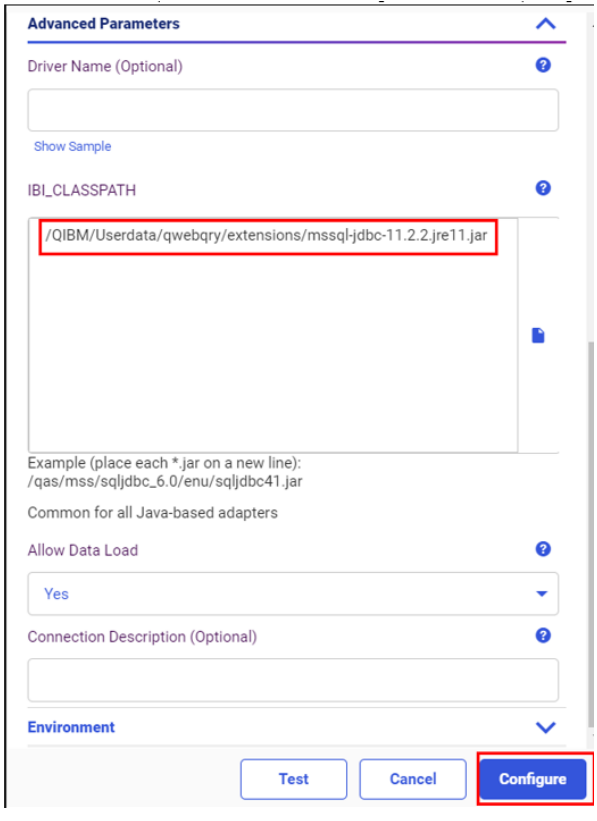
When upgrading Web Query to a new release level, if you are using any of these adapters, you may need to upgrade the driver for the adapter to ensure compatibility between the driver's JRE level and the Java level used by the Web Query release. To upgrade a driver, follow these steps.

1. Download the new driver from the appropriate website for the database server.
2. Replace the old driver with the new driver in the Integrated File System (IFS) on the IBM i. The recommended location to store the drivers is in the /qibm/userdata/qwebqry/ extensions directory.

3. Update the IBI_CLASSPATH setting to point to the new driver. You can do this from the Web Query server Workspace by expanding *Java Services*, right-clicking *Default*, selecting *Properties*, clicking the *Java Services Configuration* tab, and expanding *Class path*. Update the driver and then click *Save and Restart Java Services*, as shown in the following example image.



Alternatively, you can update the IBI_CLASSPATH from the Get Data panel by right-clicking the adapter and clicking *Show Connections*. Right-click the connection, click *Properties*, and expand *Advanced Parameters*. Update the driver and then click *Configure*, as shown in the following example image.



HTTP Server Security

It is highly recommended to configure Web Query to use Hypertext Transfer Protocol Secure (HTTPS) with the Transport Layer Security (TLS) protocol. TLS is a security protocol for browsers and web servers. It is an improved version of the Secure Socket Layer (SSL) protocol. TLS establishes a secure connection between an end user browser and the Web Query server. It adds security to communications by encrypting the data over the connection.

In Web Query release 2.4.0, Web Query startup fails if the HTTP Apache server, WQLIB85, is not TLS or SSL-enabled. Without this security, passwords and sensitive data may be compromised.

Information to enable TLS for the HTTP server, Developer Workbench client, Data Management Console, and data adapters are in the *TLS Enablement* topic on the Db2 Web Query for i Wiki at *https://ibm.biz/db2wq-doc*. When the HTTP server is enabled for TLS, the URL for accessing Web Query is changed to the following:

```
https://<system>:12331/webquery
```

Note: https is used, instead of http.

Though not recommended, a system administrator can override the TLS enforcement at startup by updating the TLS_OVERRIDE setting in the Web Query configuration file, QWQREPOS/QWQCONFIG.

Possible values are as follows:

- *OFF: Fail to start if TLS is disabled (default)
- *ON: Allow to start if TLS is disabled

The following is an example SQL statement to configure Web Query to bypass the TLS check and allow Web Query to run with TLS disabled:

```
UPDATE QWQREPOS/QWQCONFIG set VAL='*ON' where PARM='TLS_OVERRIDE'
```

Mandatory Access Control

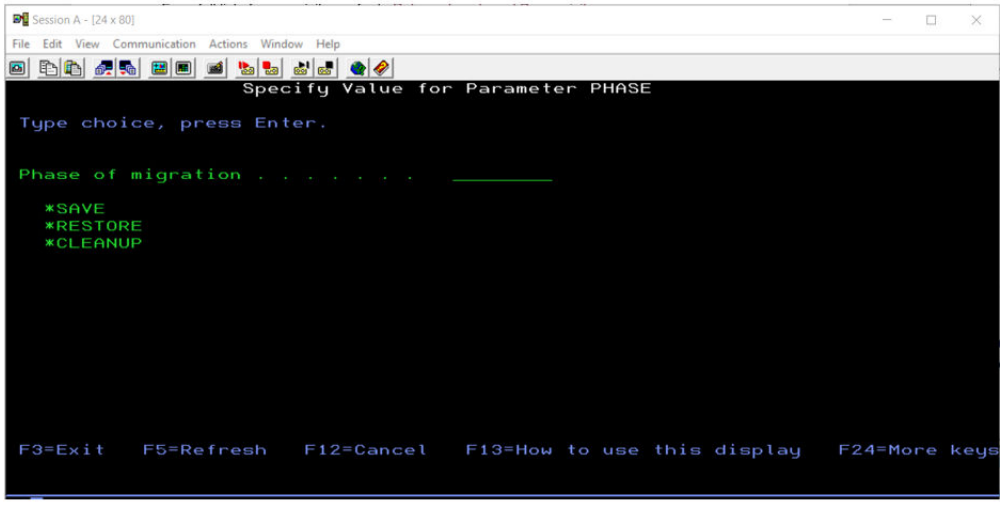
Mandatory access control (MAC) is a security strategy that applies to multi-user environments and forces a strict level of control. Security is administered by a central authority, such as a system administrator. All users, including administrators, have a unique user profile. They do not share profiles, ensuring both control and accountability.

Beginning in Web Query release 2.4.0, MAC is enabled by default for new installations. The primary significance of this is that the Web Query administrative profile, QWQADMIN, has no password and cannot be used for sign-on. When upgrading to Web Query 2.4.0 from a prior release, the MAC status (enabled or disabled) is preserved.

For more information, refer to *Mandatory Access Control*.

MIGWEBQRY

The Migrate Web Query (MIGWEBQRY) command supports migrations to release 2.4.0 from any of the Web Query version 2 (5733WQX) releases. Because MIGWEBQRY no longer supports migration from version 1 (5733QU2), the command interface is simplified and has only one parameter specifying the phase of the migration, as shown in the following image.



For assistance migrating from 5733QU2, contact *qu2@us.ibm.com*.

Developer Workbench Download

Users of the Developer Workbench client must download and install the release 2.4.0 files onto their workstation. It is important that the release and fix level of the client match that of the Web Query Reporting Server running on the IBM i. To install the client, download the following five files from /qibm/proddata/qwebqry/DeveloperWorkbench to a folder on the Windows workstation, and then run the .exe file:

/qibm/proddata/qwebqry/DeveloperWorkbench/WQDevWork240.sfx.part1.exe

/qibm/proddata/qwebqry/DeveloperWorkbench/WQDevWork240.sfx.part2.rar

/qibm/proddata/qwebqry/DeveloperWorkbench/WQDevWork240.sfx.part3.rar

/qibm/proddata/qwebqry/DeveloperWorkbench/WQDevWork240.sfx.part4.rar

/qibm/proddata/qwebqry/DeveloperWorkbench/WQDevWork240.sfx.part5.rar

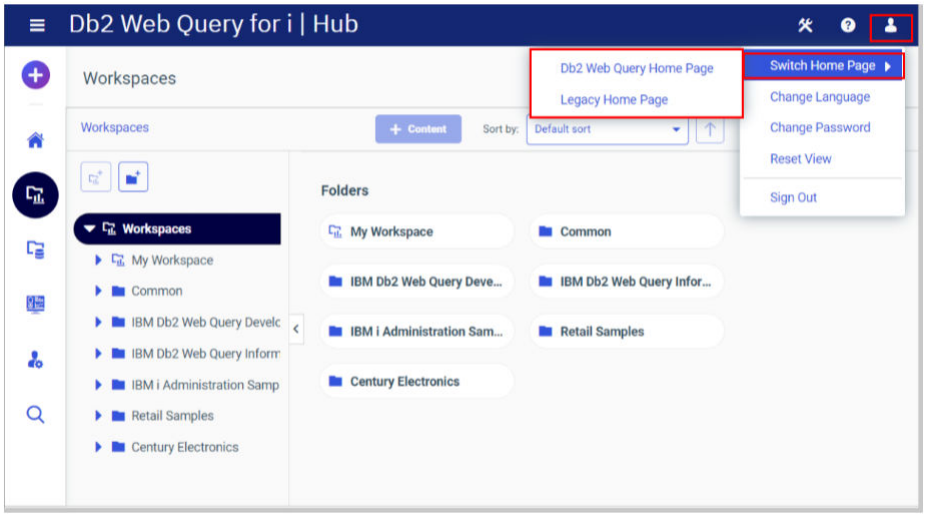
Group PTF Numbers

The group PTF numbers reserved for future Web Query 2.4.0 hotfixes are:

- 7.4 - SF99672
- 7.5 - SF99673

Db2 Web Query for i Hub

The new Db2 Web Query for i Hub is the default landing page when logging into Db2 Web Query. It provides navigation to all areas of Web Query and provides a unified interface to authoring capabilities and administrative tasks. When upgrading from a prior release, you can access the previous Home Page interface, if needed. In the top right corner of the Hub, click the profile icon, then select *Switch Home Page*, as shown in the following image.



Known Issues

The following topics describe known issues in Db2 Web Query.

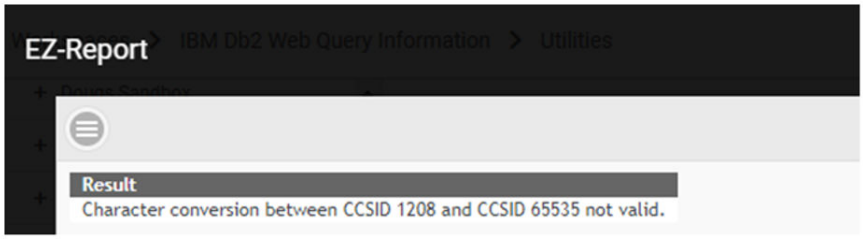
Multi-Task Schedules

Opening a multi-task schedule in the MR interface (browser) silently removes the additional tasks, without notifying the user, when the *Save* or *Save As* option is used.

Workaround: The *Save* and *Save As* options from Developer Workbench do not have this issue when editing a multi-task schedule.

EZ-Report

The EZ-Report utility fails on IBM i releases 7.4 and 7.5 with a 'Character conversion between CCSID 1208 and CCSID 65535 not valid' message, as shown in the following image.

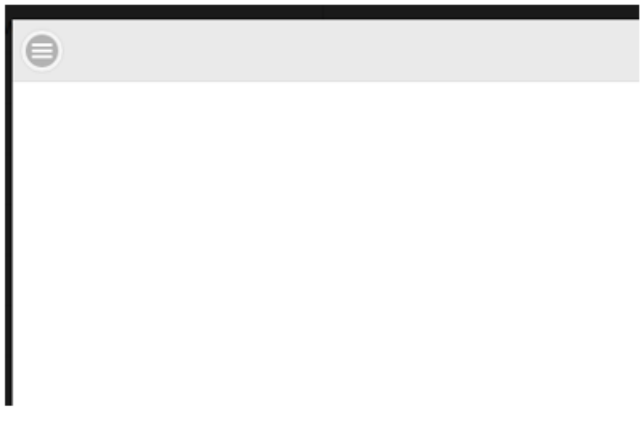


To resolve the problem, apply the following 5770SS1 PTF for your IBM i release level:

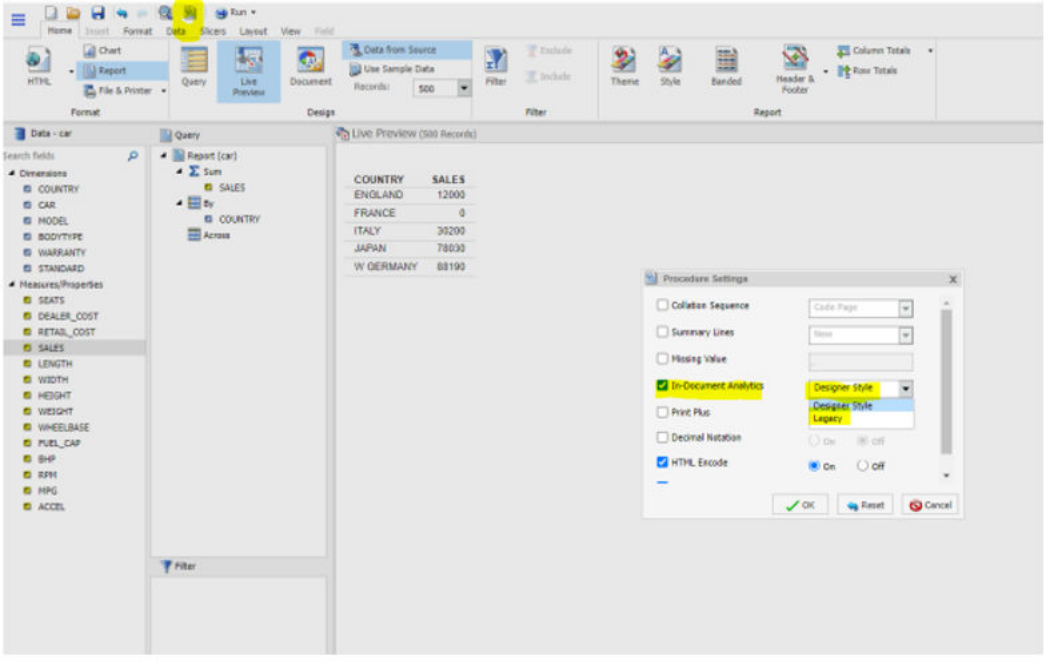
- IBM i 7.5 - PTF SI80256
- IBM i 7.4 - PTF SI80105

Active Reports

When running an active report, the report may appear to load, and then show up blank, as shown in the following image.

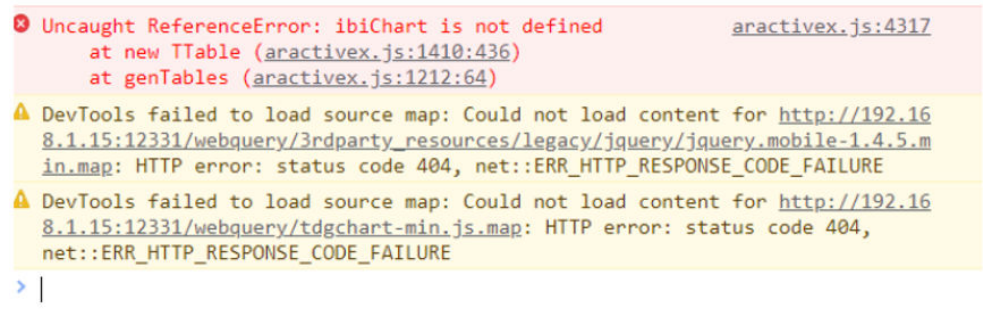


This occurs when a combination of Analytic Document options are enabled, the Advanced Tools option is not enabled, and the Legacy View for In-Document Analytics option is selected in the Procedure Settings dialog box, as shown in the following image.



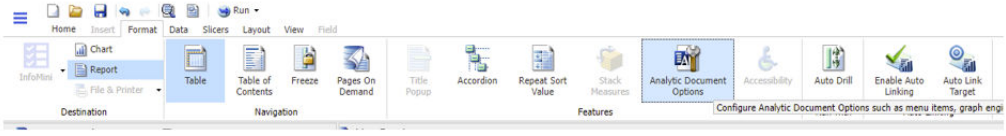
To verify the cause of the blank report, open the Developer Tools in the browser and navigate to the Console tab.

If you see the error *Uncaught Reference Error: ibiChart is not defined*, as shown in the following image, implement the described workaround.

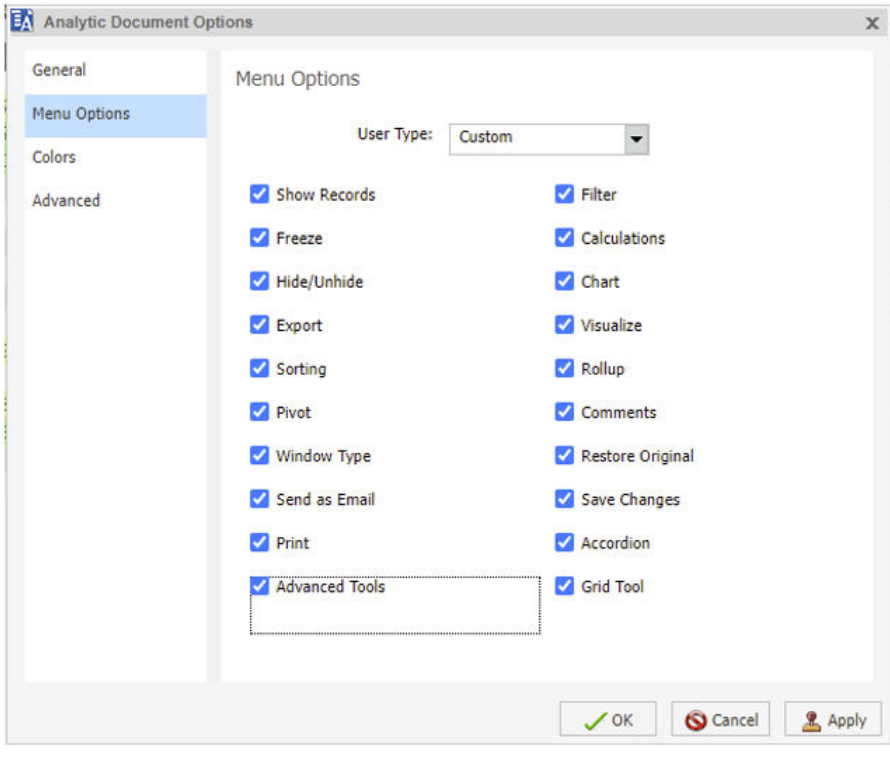


Workaround

1. Edit the report in InfoAssist.
2. Select the *Format* tab and then click *Analytical Document Options*, as shown in the following image.



3. Select *Menu Options* and then select *Advanced Tools*, as shown in the following image.



4. Click *OK* and save the report.

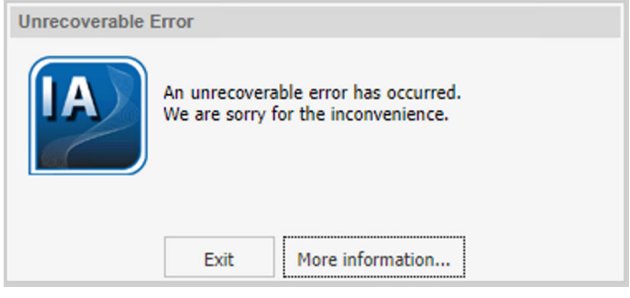
Developer Workbench

This section addresses the known issues for Developer Workbench.

- New SQL reports created with the SQL Report Wizard in Developer Workbench will fail to run with the following error:

  ```
  (FOC205) THE DESCRIPTION CANNOT BE FOUND FOR FILE NAMED: FOCCACHE/SQLOUT
  ```

  New and existing SQL reports created with the SQL Report Wizard cannot be edited in Developer Workbench and will fail with the following error:

  Note: Existing, unedited SQL reports will continue to run.

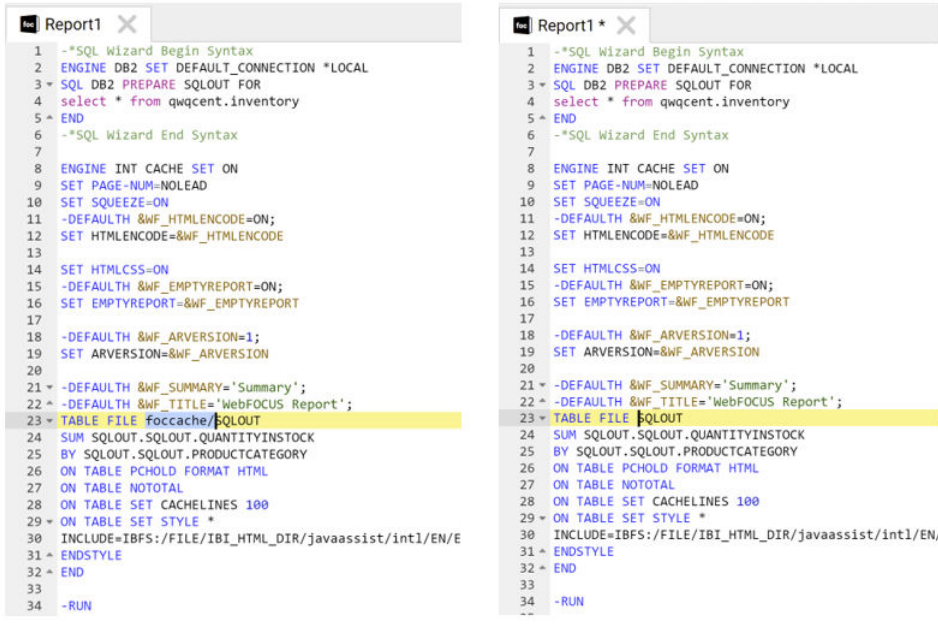
  Workarounds:

  - Alternative and more strategic methods for auto generating a synonym and report over an SQL statement or procedure can be found in the following white paper:

    http://ibm.biz/db2wq-sql-usage-whitepaper

  - A Web Query administrator can text edit the report from the Web Query home page and remove *foccache/* from the *TABLE FILE foccache/SQLOUT* line, so that the resulting line is instead *TABLE FILE SQLOUT*.

The following image shows an example SQL report before and after the change.



- Web Query developers in folder-dba groups cannot create or edit synonyms from the Developer Workbench tree.

  Workaround: Use the Data Management Console in Developer Workbench or use the Reporting Server Console from the browser.

Db2 Web Query Designer

This following is a known issue for Db2 Web Query Designer.

- Db2 Web Query Designer does not yet support running a chart with an output format that embeds graphics, such as PDF and Excel. When creating charts with embedded graphics formats, you can use InfoAssist, available from the Home Page.

REST-Based Application Extension (WQRAX)

This section addresses the known issues for the REST-Based Application Extension (WQRAX).

- Certain types of reports, including visualizations which utilize some maps, will not render properly when invoked through WQRAX.

- You must edit HTML Composer dashboards that were created prior to Web Query 2.1.0 group PTF level 13 or 2.1.1 group PTF level 2 for compatibility with current fix levels. Otherwise, they will not run in WQRAX.

  Workaround: Either edit and save the HTML file in the Developer Workbench HTML canvas, which will make the changes automatically, or edit and save the HTML dashboard using the following steps:

  1. Sign in to Web Query using a Web Query Administrator user ID.
  2. On the BI Portal resource tree, right-click the HTML dashboard file and select *Edit*.

     Note: If you do not see an Edit option, then the dashboard is already at a current version and these steps do not apply.
  3. In the text editor, click *Search* and then *Find*.
  4. Type */webquery/ibi_html* in the Find What: box.
  5. Type *./ibi_html* in the Replace With: box.
  6. Click the *Replace All* button.
  7. Click the *Save* button on the toolbar.
  8. Click *File* and then *Exit*.

Business Intelligence Portal

This section addresses the known issues for BI Portal.

Upload Data and Upload Wizard

- The Upload Wizard fails in BI portal (Legacy mode).
- NLS characters are not supported in the following places when using the Upload Data and Upload Wizard:
  - Excel Worksheet name.
  - Folder name from where the Upload Wizard is being launched.

  Workaround: Use invariant (A-Z and 0-9) characters. Support for NLS characters will be added in a future hotfix.
- Run-Time Enablement (RTE) may cause the Upload Wizard to fail. This will happen if the user's current library (CURLIB) is not defined in the user's active RTE environment. The Upload Wizard writes out a temporary file during the upload process.

  Workaround: It is recommended to add both QGPL and the user's CURLIB (if different from the default, QGPL) to the user's active RTE environment using the WRKWQRTE command.

Metadata Wizard

- The Metadata Wizard fails in BI portal (Legacy mode).
- The Adapters for Query/400, DB Heritage, and JD Edwards should not be used during the Import Metadata step as these are multi-step Create Synonym processes, which are not yet supported by the Metadata Wizard.

  Workaround: Use the Metadata New option to create synonyms for these Adapter types.

InfoAssist

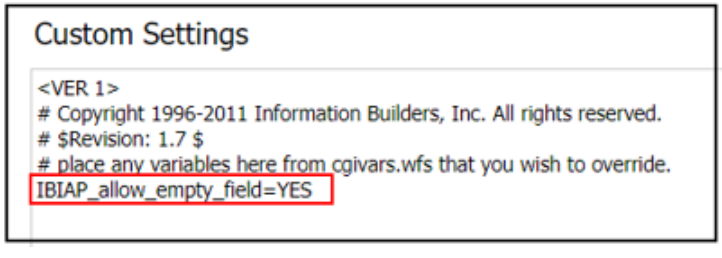
This section addresses the known issues for InfoAssist.

- The 2014 Demographic layers do not render on an ESRI map.
- At run time, a report will fail if empty filter values are entered for simple parameter prompts. To resolve the issue, the Web Query administrator can configure a setting to allow empty values, as follows.

  1. In the Administration Console, on the *Configuration* tab, click *Custom Settings*.
  2. To permit the use of empty fields in filter prompts, type the command:

     ```
     IBIAP_allow_empty_field=YES
     ```

     Type it under the final comment statement at the top of the Custom Settings text box or under the most recent custom setting entry, as shown in the following image.

  3. To store the settings in an encrypted format, select the *Encrypt* check box.
  4. When your configuration is complete, click *Save*.
  5. When you receive a confirmation message, click *OK*.
  6. When the Custom Setting page clears, click *Custom Settings* under the Application Settings folder to see your updated comments, settings, or commands in the Custom Settings text box.

7. If you later decide to prohibit the use of empty fields, change the command to:

   ```
   IBIAP_allow_empty_field=NO
   ```

   Alternatively, you can delete the following command from the Custom Settings page or convert it to a comment if you plan to reactivate this feature.

   ```
   IBIAP_allow_empty_field=YES
   ```

8. When your configuration is complete, click *Save*.

- If you run a request with output to a Db2 file, and you see the following error message, `(FOC36219) AN ERROR OCCURRED WHEN OPENING FILE: HOLD MASTER`, then open the report in InfoAssist and re-save it. This removes the internal directive to save the metadata to an explicit location, as it is not needed in this context.
- The German translation of the visualization filter box for BLANK does not match the run-time option.

JD Edwards Adapters

This section addresses the known issue for the JD Edwards Adapters.

- To use the Alternate Language option in the Adapter for JD Edwards EnterpriseOne and the Adapter for JD Edwards World:

1. Configure the adapter with *UDC Direct File Access* unchecked.
2. Run the *Refresh Metadata* with *Alternate Language File* unchecked.

   This step will create the udcdicdb table.
3. Run the *Refresh Metadata* with *Alternate Language File* checked and enter the default language code.

   This step will create the altdicdb table.
4. Create all the synonyms needed.

Note: Steps 2 and 3 need to be run, as needed, whenever UDC descriptions are updated.

Report Broker

This section addresses the known issue for Report Broker.

- Migration of Public Distribution Lists will generate the following error:

```
ERROR IBFSService                    - setShares - opShareBasic/
opShareAdvanced to this resource denied - user:qwqadmin res:/WFC/
Repository/untitled/ReportBroker/~ownerID/distribution_list.adr
[2014-03-11 00:00:00,605] ERROR IBFSAddrBookConverter            -
Failed to share '/WFC/Repository/untitled/ReportBroker/~ownerID/
distribution_list.adr' with IBFS:/SSYS/GROUPS/EVERYONE
```

  The distribution list will be migrated as a private object. To make this published:

  1. Move the distribution list to a published folder.
  2. Right-click on the distribution list and select the *Publish* option.

Spreadsheet Client

This section addresses the known issue for Spreadsheet Client.

- The data source is not correct when creating a report using metadata that is under the user's top-level folder. By default, Spreadsheet Client shows metadata in the baseapp folder.
- HTML report data is not written into Excel.
- Populating a spreadsheet using a large Excel Add-in request (25 columns, 200K rows) does not return output.

National Language Support

This section addresses the known issues for National Language Support (NLS).

- When the Reporting Server runs in CCSID 285, HTML dashboards fail with JavaScript errors if running in a Firefox or Internet Explorer browser. This is caused by an encoding problem in the IBM Websphere Application Server plugin. To resolve the problem, apply the following PTF for your release level of product 5770DG1:
  - 7.3: SI69363
- Some of the Retail Sample reports will not run in NLS or DBCS languages. This issue will be resolved in an upcoming PTF.

DataMigrator/Data Management Console

Important: The renaming of Application Directories in the Data Management Console is not recommended as it may result in execution failures with the contents of the Application Directory.

Metadata

This section addresses the known issues for metadata.

- Creating a synonym for a Query/400 file from the right-click folder Metadata Edit option does not generate the associated Web Query procedure in the repository. To create Query/400 synonyms, right-click a folder and select the *Metadata New* option.
- Creating a synonym for a Query/400 file fails when it is launched from a subfolder.

Browser Information

The following topics describe information for the available web and mobile browsers for Web Query 2.4.

Web Browsers

The following browsers are certified for Web Query and Developer Workbench.

- Microsoft Edge™ Version 108
- Google Chrome™ Version 108
- Mozilla Firefox® Version 107

Release 2.4 Notes

- Simple HTML reports created by Web Query can be viewed on any browser.
- Chart/Graph request notes:
  - *Browser-generated graphs* refer to graphs that are rendered inside the browser using HTML5 (and JavaScript). Browser-generated graphs are utilized in both standard HTML5 output ("FORMAT JSCHART"), and in Active Technologies ("FORMAT AHTML").

- *Server-generated graphs* refer to graph requests that are generated on the Reporting Server and then embedded as a bitmap or vector image in a document or webpage. This includes the following output formats:
  - Bitmap: PNG, JPG
  - Vector: PDF (but not active PDF), SVG

- Support for presenting images and graphs in HTML, DHTML, and DHTML compound reports is provided using an image embedding facility based on the client browser. Output generated by Internet Explorer browsers or in scenarios where the browser is unknown (such as when distributed by Report Broker) supports image inclusion through the creation of a web archive file (.mht). For all other browsers, images are base64 encoded within the generated .htm file.

- Drill-down links do not work when using an embedded PDF viewer available in some browser versions. Refer to the browser's configuration information on how to change the Application Options settings for the relevant content types so that the browser will automatically use Adobe Reader.

- Adobe Reader support:
  - Acrobat Reader DC is certified
  - Adobe XI is supported
  - Adobe X is supported

- If you are using Internet Explorer® 11 on a Windows® 2012 R2 OS and you attempt to run an object (such as a report or chart in InfoAssist), Internet Explorer 11 opens it in a new window instead of targeting the object to a specific frame. For example, in InfoAssist, the New Window Runtime opens a new browser window that shows the running image, which then replaces that page with the output. Since Internet Explorer 11 does not allow the replacement of that window, it opens a new window instead.

  This browser limitation can be remedied by an administrator. For more information, see *https://social.msdn.microsoft.com/Forums/ie/en-US/a5c294e2-e407-491d-ba6a-b7f7edbcabaf/ie11-cant-post-form-data-to-specific-frame-or-window-dialog-opened-via-windowopen?forum=iewebdevelopment*

Mobile Browser Information

If you are planning to use Web Query on mobile devices, note the following regarding mobile browser support. If you will be using Web Query on the Windows operating system, see the Web Browser support information.

Note: Browsers released after the production date of a Web Query version are subject to certification.

InfoAssist is not supported on mobile devices.

The following devices were used in testing Web Query 2.4:

- iOS 15, 14
- Android 11, 10
- Db2 Web Query mobile app

Usage Considerations:

- Report Broker interfaces are supported on tablets.
- HTML reporting Table of Contents (BYTOC) feature is not supported.
- Viewing PDF, Excel, and PowerPoint documents may require a third-party helper app.
- To open active report content, JavaScript needs to be enabled in your web browser. On mobile devices, please use the Db2 Web Query mobile app. If not installed, download it from the App Store for iOS devices or from the Google Play Store for Android devices.

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