

**IBM OpenPages:
Report Authoring
(v7.0)**

Student Guide Volume 1

Course Code: 1O202

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Course Overview

Course Overview

IBM OpenPages: Report Authoring (v7.0) provides report authors with fundamental and advanced techniques to create reports based upon the IBM OpenPages GRC Platform. The students will learn the use of the reporting framework model, namespaces, Cognos Report Studio reports, Cognos Workspace Advanced reports, and others.

Intended Audience

This advanced course is intended for IBM OpenPages GRC Platform report authors.

Topics Covered

Topics covered in this course include:

- IBM OpenPages Reporting Framework
- Namespaces
- Creating Cognos Workspace Advanced Reports
- Using Cognos Report Studio
- Using Cognos Workspace
- Using Cognos Event Studio
- IBM OpenPages Functions and Query Operations
- Enums, List Headers, Conditional Variables, Prompts
- Sorting Data and Using Images
- Spreadsheet Considerations and Reporting Fragments
- Report Performance and Report Administration

Course Prerequisites

Participants should have completed:

- IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2)
- Using IBM OpenPages (v.7.0)
- IBM Cognos Report Studio: Author Active Reports (v10.1) (optional)
- IBM Cognos Workspace Advanced: Author Self-Service Reports (v10.2) (optional)
- IBM Cognos Workspace: Create Workspaces (v10.2) (optional)

Document Conventions

Conventions used in this guide follow Microsoft Windows application standards, where applicable. As well, the following conventions are observed:

Bold

Bold style is used in demo and workshop step-by-step solutions to indicate either:

- actionable items

(Point to **Sort**, and then click **Ascending**.)

- text to type or keys to press

(Type **Sales Report**, and then press **Enter**.)

- UI elements that are the focus of attention

(In the **Format** pane, click **Data**)

Italic

Used to reference book titles.

CAPITALIZATION

All file names, table names, column names, and folder names appear in this guide exactly as they appear in the application.

To keep capitalization consistent with this guide, type text exactly as shown.

Additional Training Resources

Bookmark [Business Analytics Product Training](http://www-01.ibm.com/software/analytics/training-and-certification/) <http://www-01.ibm.com/software/analytics/training-and-certification/> for details on:

- Instructor-led training in a classroom or online
- Self-paced training that fits your needs and schedule
- Comprehensive curricula and training paths that help you identify the courses that are right for you
- IBM Business Analytics Certification program
- Other resources that will enhance your success with IBM Business Analytics Software

IBM Product Help

Help type	When to use	Location
Task-oriented	You are working in the product and you need specific task-oriented help.	<i>IBM Product</i> - Help link
Books for Printing (.pdf)	<p>You want to use search engines to find information. You can then print out selected pages, a section, or the whole book.</p> <p>Use Step-by-Step online books (.pdf) if you want to know how to complete a task but prefer to read about it in a book.</p> <p>The Step-by-Step online books contain the same information as the online help, but the method of presentation is different.</p>	Start/Programs/ <i>IBM Product</i> /Documentation
IBM on the Web	<p>You want to access any of the following:</p> <ul style="list-style-type: none"> • Training and Certification Web site • Online support • IBM Web site 	<ul style="list-style-type: none"> • http://www-01.ibm.com/software/analytics/training-and-certification/ • http://www-947.ibm.com/support/entry/portal/Overview/Software • http://www.ibm.com



Introduction to IBM OpenPages Reporting

IBM OpenPages: Report Authoring (v7.0)



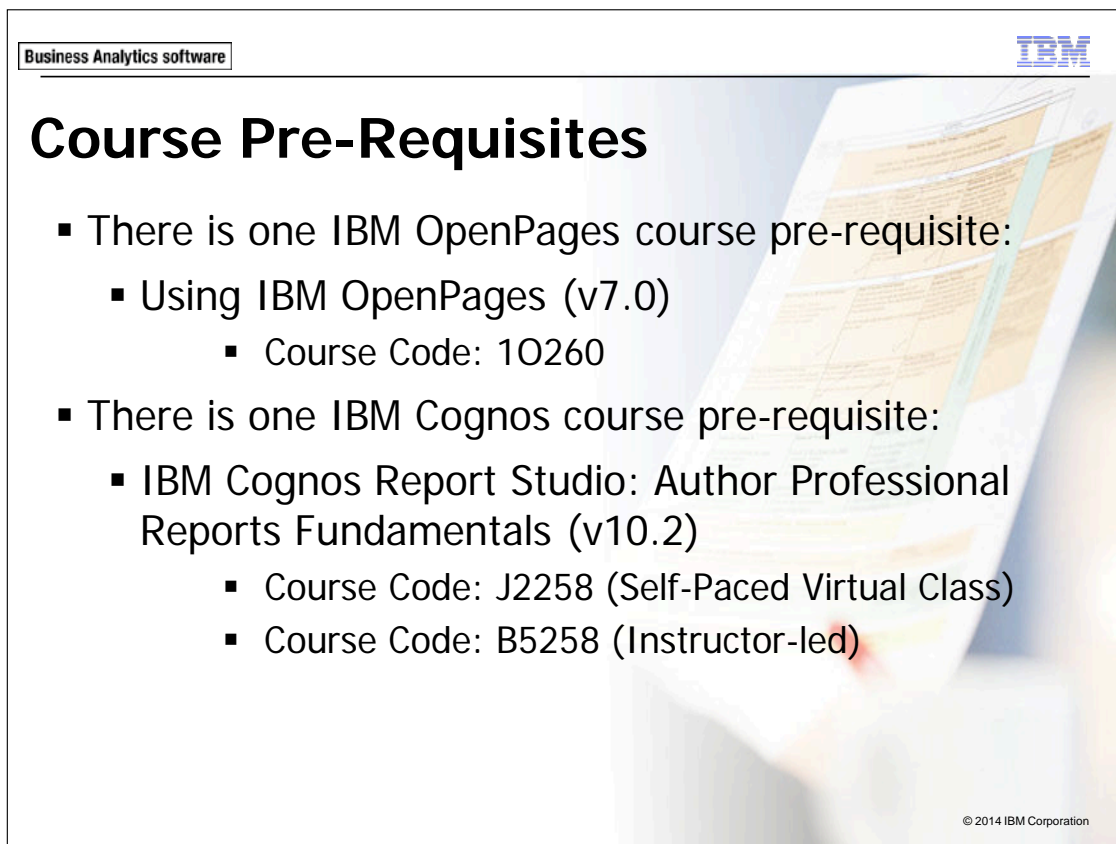
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Course Objectives

- At the end of this course, you should be able to:
 - do the following with IBM OpenPages GRC Platform data:
 - create IBM Cognos Workspace Advanced reports,
 - create IBM Cognos Report Studio reports,
 - create IBM Cognos Workspace dashboards,
 - create Active Reports for mobile computing,
 - create IBM Cognos Event Studio agents,
 - model reporting fragments and computed fields.

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Course Pre-Requisites

- There is one IBM OpenPages course pre-requisite:
 - Using IBM OpenPages (v7.0)
 - Course Code: 10260
- There is one IBM Cognos course pre-requisite:
 - IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2)
 - Course Code: J2258 (Self-Paced Virtual Class)
 - Course Code: B5258 (Instructor-led)

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If you have not taken the *Using IBM OpenPages* course, you may have difficulty with the following:

- GRC Platform fundamentals, nomenclature, definitions, naming conventions, data conventions, and basic concepts.

If you have not taken the *IBM Cognos Report Studio: Author Professional Reports Fundamentals* course, you may have difficulty with the following:

- Understanding Report Studio terminology,
- Locating, and navigating to, key Report Studio work areas, views, and menus.
- Using basic Report Studio configuration tools, and formatting standards.
- Filter and data items concepts.

Additional Resources

- In addition to the pre-requisites, you may gain additional benefit from the following IBM Cognos courses:
 - IBM Cognos Report Studio: Author Active Reports (v10.2)
 - Course code: B5298 (Instructor-led)
 - Course code: J2298 (Self-Paced Virtual Class)
 - IBM Cognos Workspace Advanced: Introduction (v10.2)
 - Course code: B5283 (eLearning)

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If you experience difficulty creating Active Reports or Workspace Advanced reports, you may find these course helpful.

Course Introduction

- This course will introduce concepts you need to successfully create reports, dashboards, and event agents using the IBM OpenPages generated reporting framework model.
- Demonstrations are designed to reinforce information presented in each module.
 - Within each module, some demonstrations build upon previous demonstrations in that module.
 - No module uses reports created in previous demonstrations.

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The first two modules will not have hands-on demonstrations, or **Demos**.

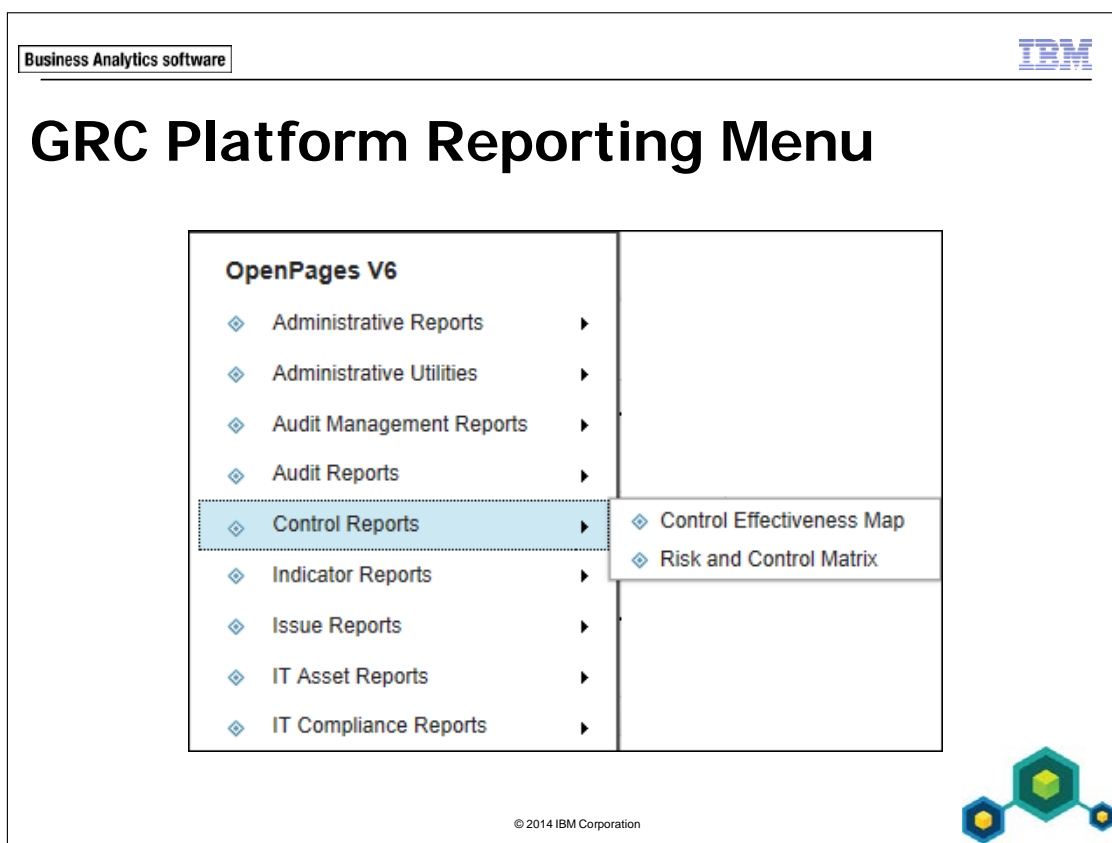
IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Objectives

- At the end of this module, you should be able to:
 - describe the GRC Platform reporting menu
 - understand IBM Cognos access from GRC Platform
 - understand IBM Cognos security access requirements
 - understand GRC Platform security on reports
 - explain locales
 - identify report design language settings

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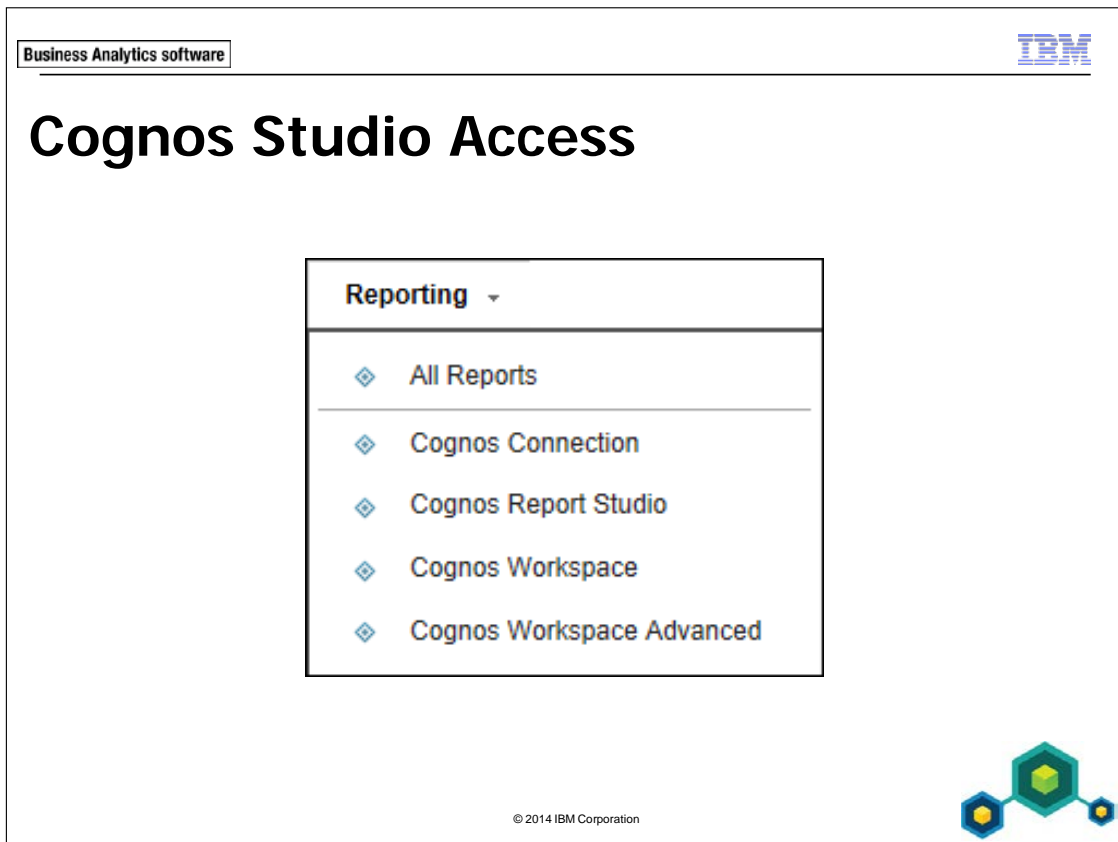


IBM OpenPages GRC Platform users will run reports from the GRC Platform user interface (UI), not from Cognos Connection. In this example, the user has a choice of two reports that analyze Control information. When the user selects a report to run, a new browser window opens displaying Cognos Viewer.

The OpenPages administrator determines which reports are available to users in the Reporting menu. In addition, the OpenPages administrator can restrict access to reports to selected user accounts.

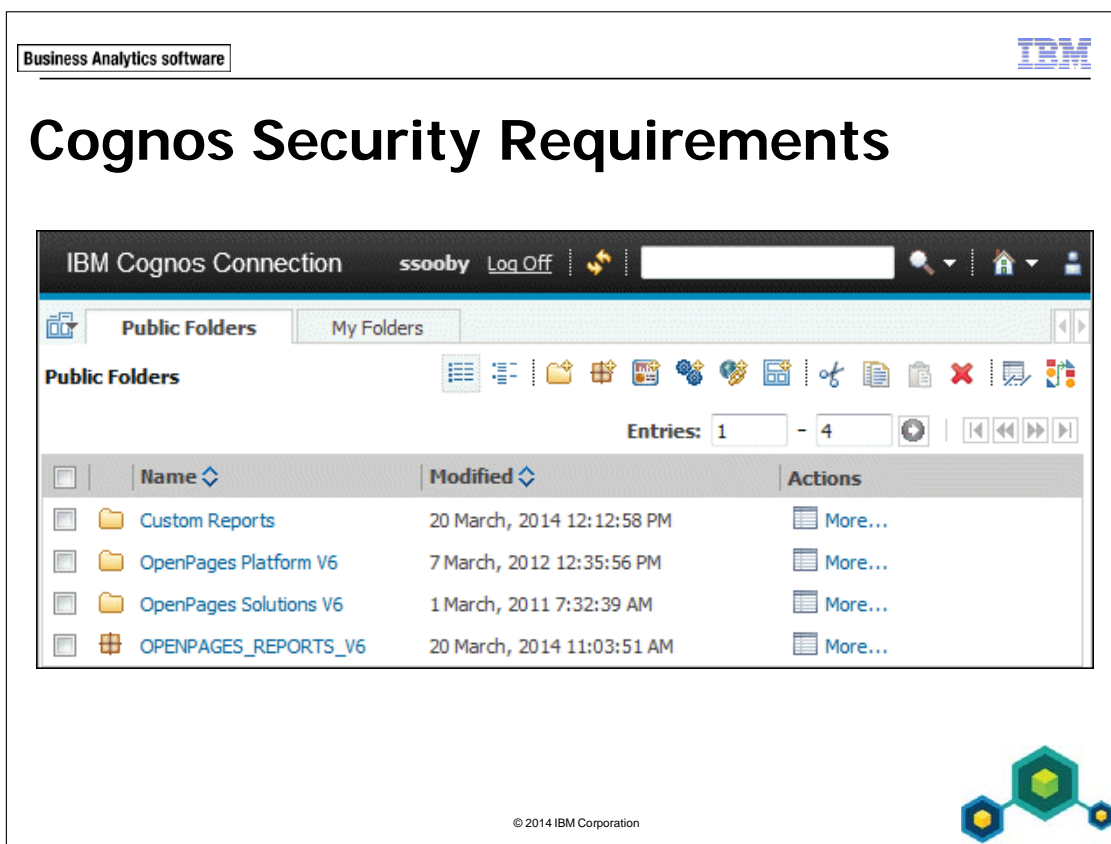
Due to the complexity of GRC Platform reports, the majority of reports available in the Reporting menu are Cognos Report Studio reports. However, Cognos Workspace Advanced and Cognos Workspace reports can be made available in the Reporting menu as well.

NOTE: In order to run a Cognos Workspace report from the Reporting menu, the user must also have access to Cognos Workspace from the Reporting menu.



GRC Platform users can access Cognos reporting applications and Cognos Connection from the Reporting menu, as seen in this example. When a user clicks one of the links, a new browser window opens displaying the selected option.

The OpenPages administrator determines which user accounts will see these links in the Reporting menu. In addition, the user's Cognos security must be such that they can run the application or access Cognos Connection. By default, all GRC Platform users have full access to Cognos Connection and the reporting applications.



To run reports from the GRC Platform, users must have **READ** access to **Public Folders** and any sub-folder containing reports to be run from the GRC Platform user interface.

To run any of the Cognos studios from the GRC Platform user interface, the user must have the ability to run the same studio application from Cognos Connection.

GRC Platform User Security

User 1

Parent Business Entity Location	Parent Business Entity Description
/Global Financial Services	Business headquarters.
/Global Financial Services/EMEA	Organisational Unit
/Global Financial Services/North America	Organisational Unit
/Global Financial Services/Asia Pac	Regional location.

User 2

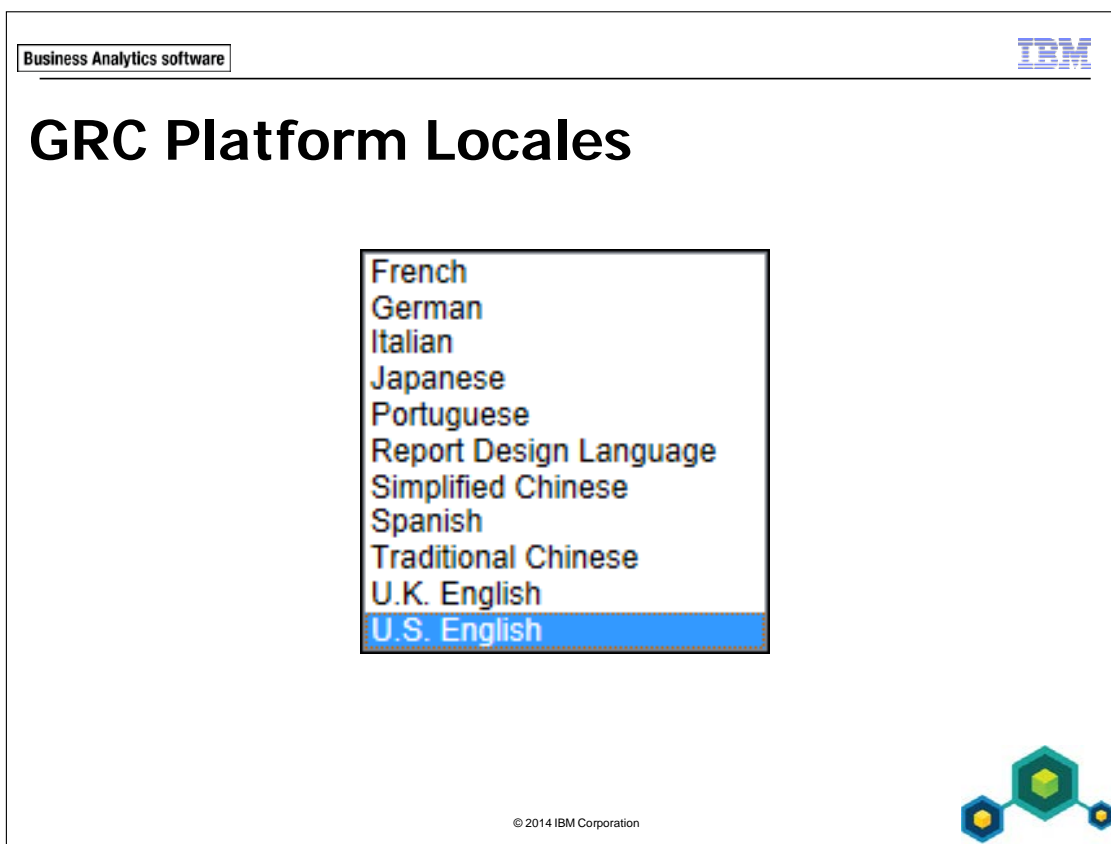
Parent Business Entity Location	Parent Business Entity Description
/Global Financial Services	Business headquarters.
/Global Financial Services/Asia Pac	Regional location.

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When a GRC Platform user runs an IBM Cognos report, the user's GRC Platform READ privileges are applied to the Cognos report. If a user is not allowed to access records in /Global Financial Services/North America/Trading and Sales, then the Cognos report will not display records from that security context point.



In this example, you can see that User 1 has access to more business entities than User 2. This GRC Platform security applies whether the user runs the report from the GRC Platform user interface or from within a Cognos reporting application.






The GRC Platform supports several languages, or locales. When the GRC Platform administrator, or user, selects a locale, the user interface (UI) will display in the selected locale.

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Name vs Label

Field Definitions		
	Name	Label
<input type="checkbox"/>	 Actual Completion Date	Actual Completion Date
<input type="checkbox"/>	 Additional Description	Additional Description

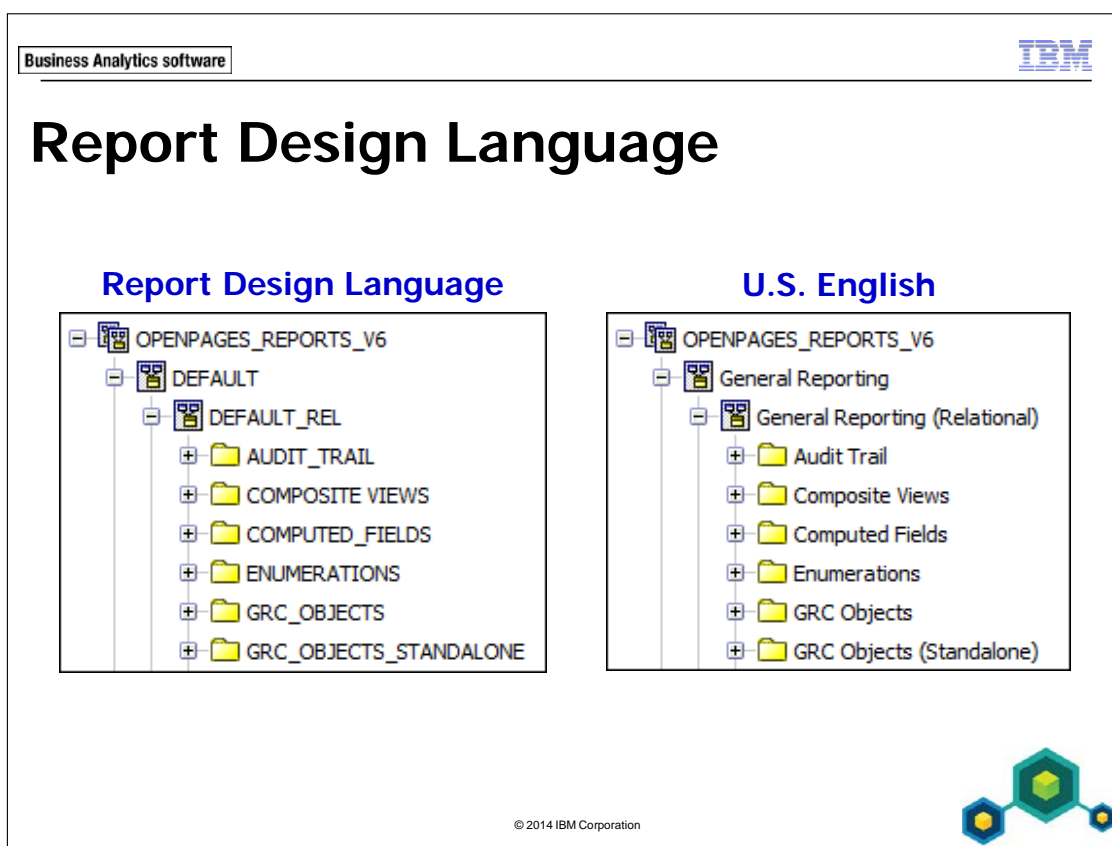
Definiciones de campos		
	Nombre	Etiqueta
<input type="checkbox"/>	 Actual Completion Date	Fecha de finalización real
<input type="checkbox"/>	 Additional Description	Descripción adicional



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Throughout the GRC Platform, objects will have a **Name** and a **Label** text string. The **Name** is a system text string and does not change. The **Label** is determined by the selected user locale. In this example, you can compare Action Item fields from U.S. English and Spanish locales.

When a properly authored report is run, the report will display the correct text strings based upon the user's current locale settings in the GRC Platform. Properly authored reports will use **Name** text strings for filtering and aggregations, guaranteeing the report will return the desired results regardless of the user's locale setting.



The **Report Design Language** (RDL) locale was designed to be used exclusively by report authors. This is the only GRC Platform locale that displays system name text strings, in both the GRC Platform and in IBM Cognos reporting applications (for example Report Studio). Reports authored using RDL will properly filter, aggregate, and display results no matter what the GRC Platform user's locale setting.

In IBM Cognos Connection, Report Design Language is equivalent to **English(Canada)**.

If the report author uses a locale other than RDL, they may have some difficulty getting some construct aggregations to produce the correct results, especially if the GRC Platform administrator has modified label text strings for enumerated field definitions.

In this example, you can compare the Cognos Report Studio Source tab for locales RDL and U.S. English.

NOTE: RDL should never be used as a locale in the GRC Platform.

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Setting RDL

Cognos Connection

Content language:

☐ Use the default language
☒ Use the following language:


English (Canada) ▼

GRC Platform

Locale Settings

Locale:	Report Design Language
---------	------------------------

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There are two methods that can be used to set the report author's user locale to Report Design Language.

- Within Cognos Connection: Set **Content Language** to **English (Canada)** before starting any reporting applications.
- Within the GRC Platform: Set the **Locale** to **Report Design Language**.

CAUTION: If your locale in the GRC Platform is not **Report Design Language** and you set Cognos Connection Content Language to **English (Canada)**, when you run reports in the GRC Platform it will display RDL text strings in the resulting report. You must reset Content Language to the default setting before exiting Cognos Connection.

Summary

- At the end of this module, you should be able to:
 - describe the GRC Platform reporting menu
 - understand IBM Cognos access from GRC Platform
 - understand IBM Cognos security access requirements
 - understand GRC Platform security on reports
 - explain locales
 - identify report design language settings

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IBM OpenPages Reporting Framework

IBM OpenPages: Report Authoring (v7.0)



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Objectives

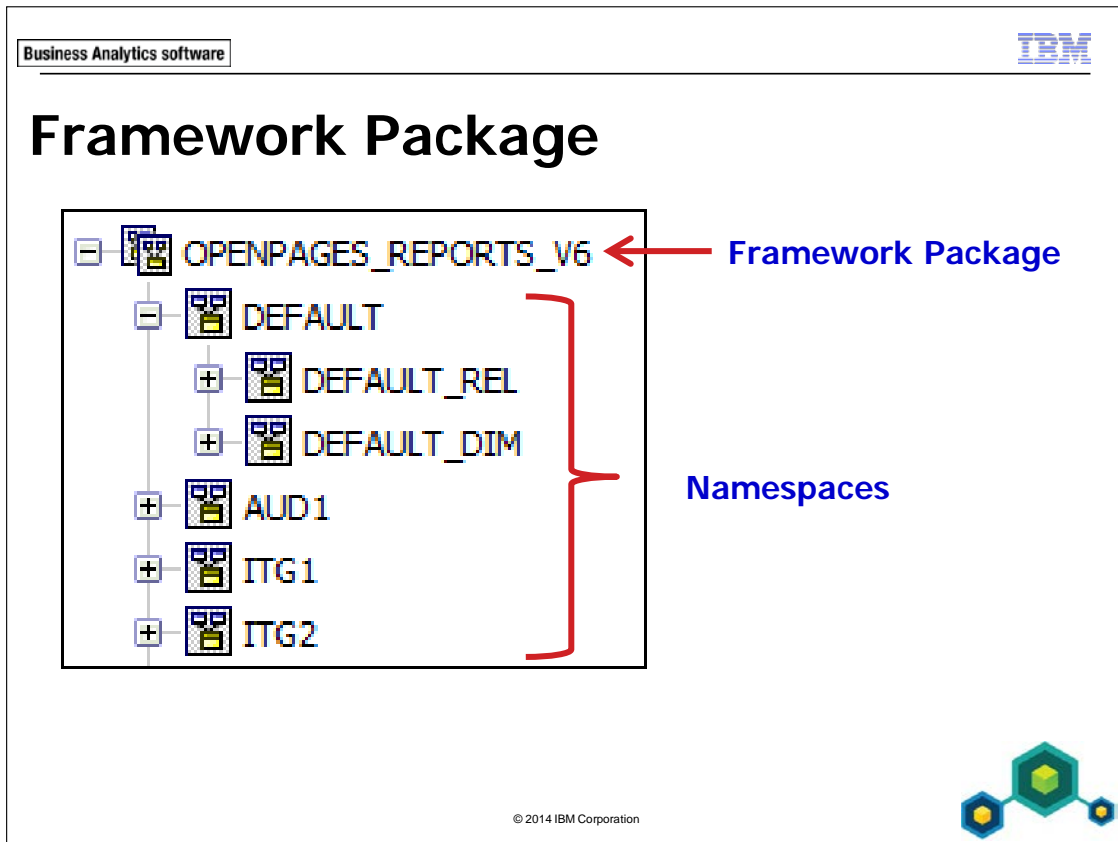
- At the end of this module, you should be able to:
 - understand from where the IBM Cognos package originates
 - recognize the namespaces within the generated reporting framework
 - identify the relational model namespace
 - identify the dimensionally modeled relational namespace
 - define measures available in the GRC Platform
 - define dimensions available in the GRC Platform

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Introduction

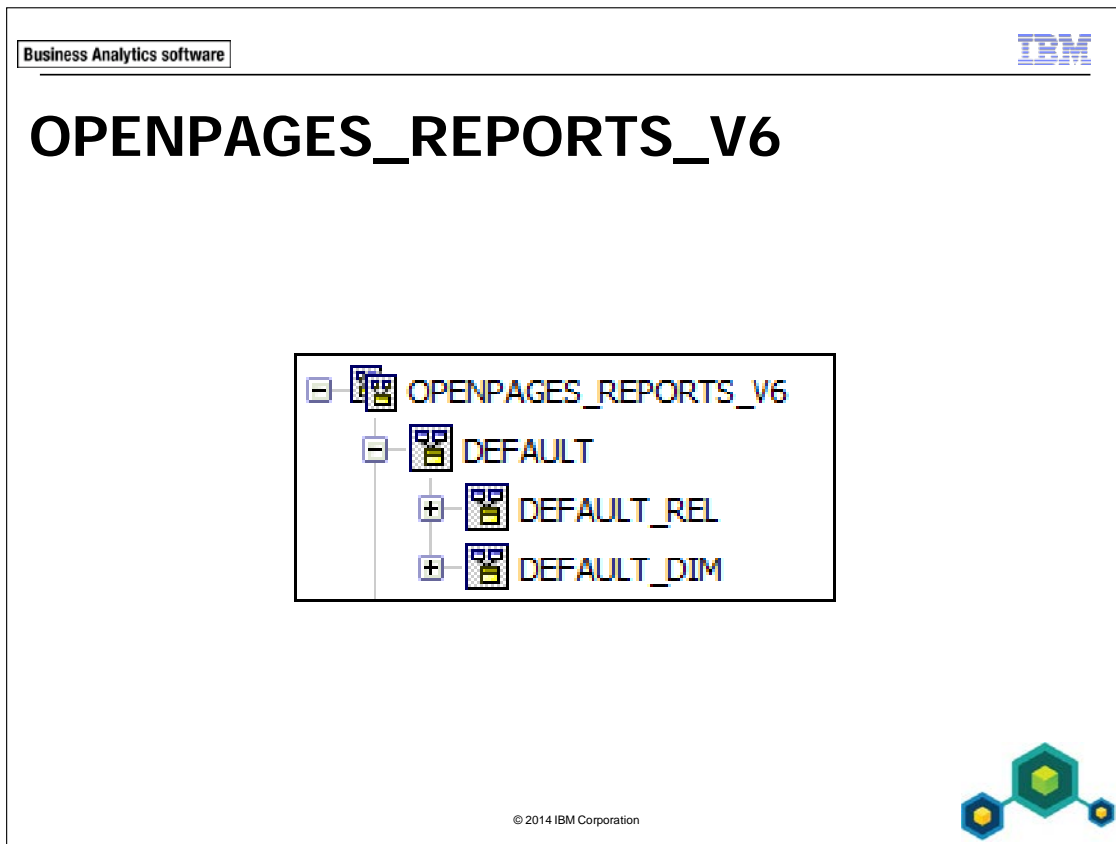
- IBM OpenPages GRC Platform has a utility that creates the package required by IBM Cognos.
- All modeling is done within the GRC Platform.
- The use of IBM Cognos Framework Manager is not needed nor encouraged.
 - IBM OpenPages Support will only address issues with the GRC Platform generated package.





Namespaces configured in the GRC Platform are used by the reporting framework generator utility to create the framework package used by the Cognos BI studios to create reports.

Namespaces uniquely identify collections of object types (query subjects), their relationships, and other objects that can be used for authoring reports.



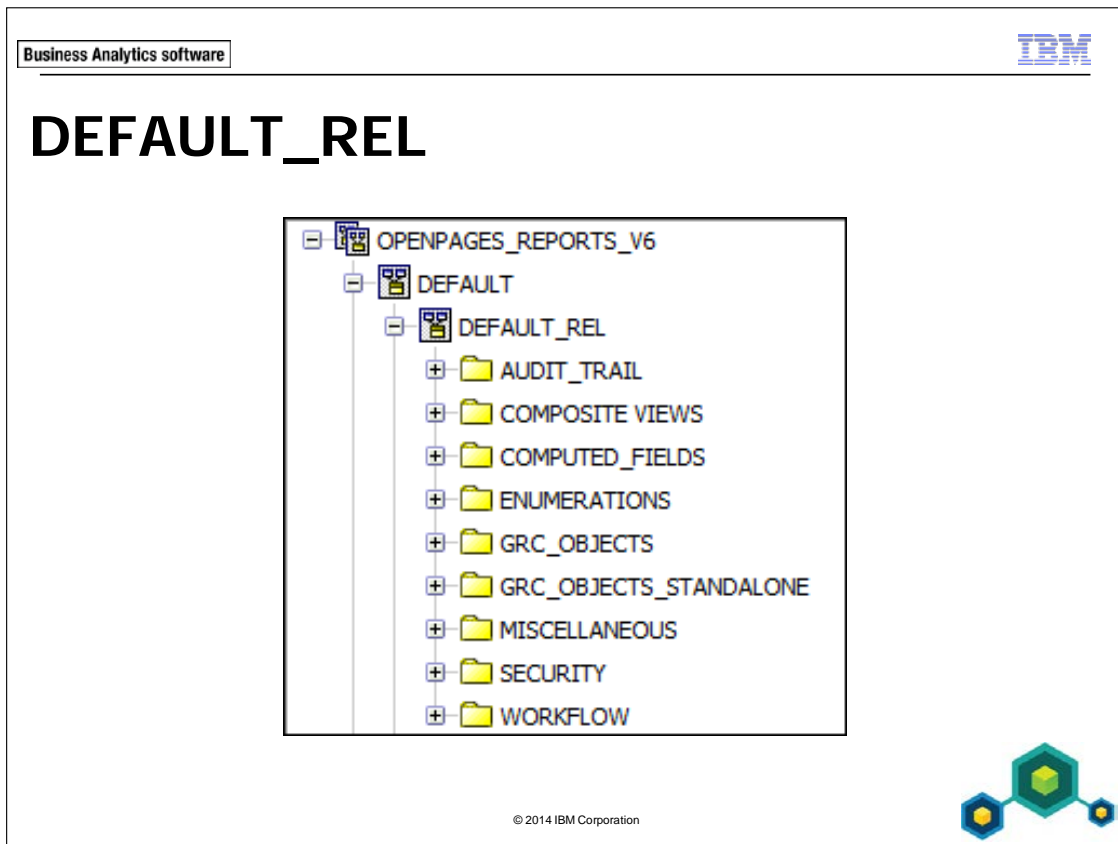
IBM OpenPages framework package supports two data models:

- A relational model based upon the object types defined in your system and their relationship to each other.
- A dimensional model based upon facts and dimensions selected for each object type.

When the Reporting Framework V6 is generated, the **OPENPAGES_REPORTS_V6** package is published to the Cognos server with the following default namespaces:

- **DEFAULT_REL:** This relational namespace is similar to the framework model included with previous versions of IBM OpenPages but has been reorganized for easier access and faster performance.
- **DEFAULT_DIM:** This dimensional namespace is organized into facts and dimensions, and gives report authors access to the online analytical processing (OLAP) features that are available in Cognos.

Using the query subjects and query items in these namespaces, report authors can create a variety of reports for execution from within IBM OpenPages GRC Platform.

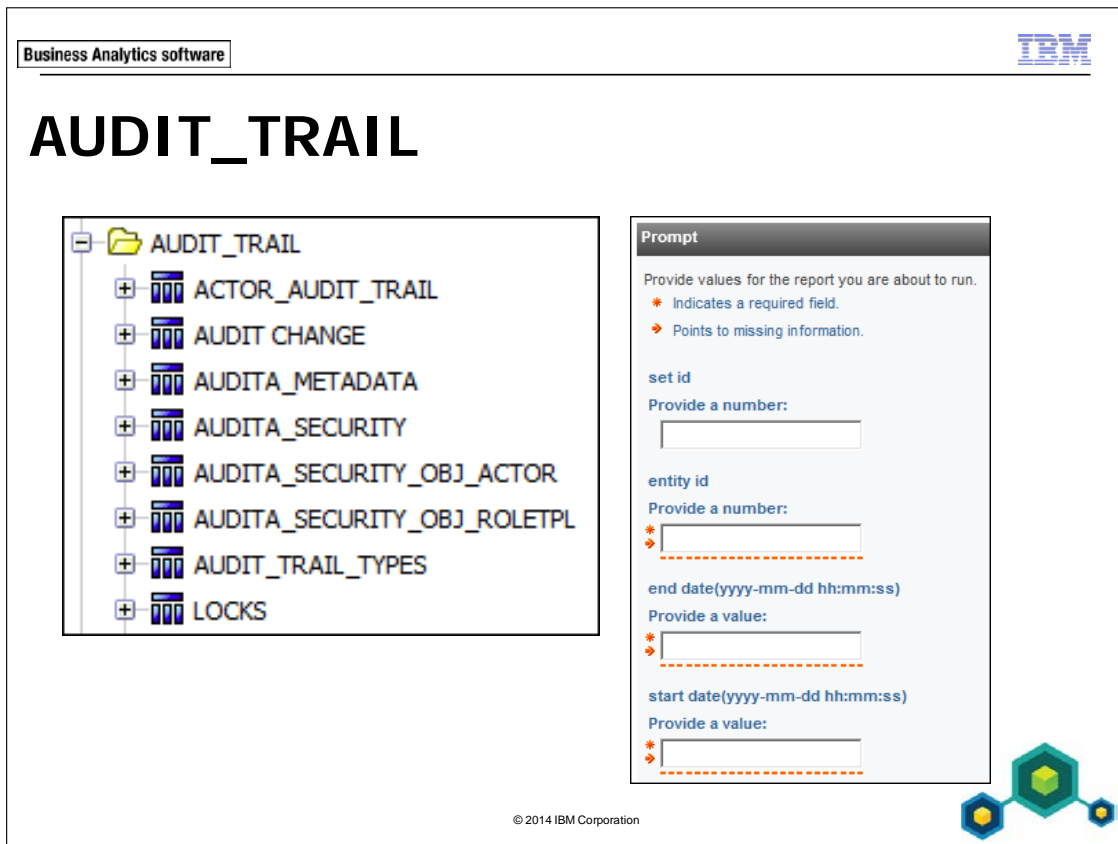


The relational model namespace (_REL) is the principal namespace used to create sophisticated GRC Platform reports. It gives the report author the greatest flexibility to create reports required by their business users.

The modeling for this namespace is determined by the configuration of the object types, associations, and field definitions within the GRC Platform.

The following pages will describe some of the folders in the DEFAULT_REL namespace and the type of report best suited for each. The following folders are typically not used by end users to create reports:

- **COMPOSITE VIEWS:** Used only by GRC Platform helpers. This folder is available in the DEFAULT_REL namespace only.
- **COMPUTED_FIELDS:** This folder appears only when there is at least one computed field defined in the GRC Platform. It contains a folder for each primary and secondary object type in which a computed field has been defined. Each object type folder contains a calculation for each defined computed field. The calculation can be used to display computed fields in reports. However, for improved performance of the report, the best practice is to create a data item containing the same expression found in the computed field.
- **WORKFLOW:** Used to support out-of-the-box (OOB) GRC Platform reports detailing the status of workflows. This folder is available in the DEFAULT_REL namespace only.

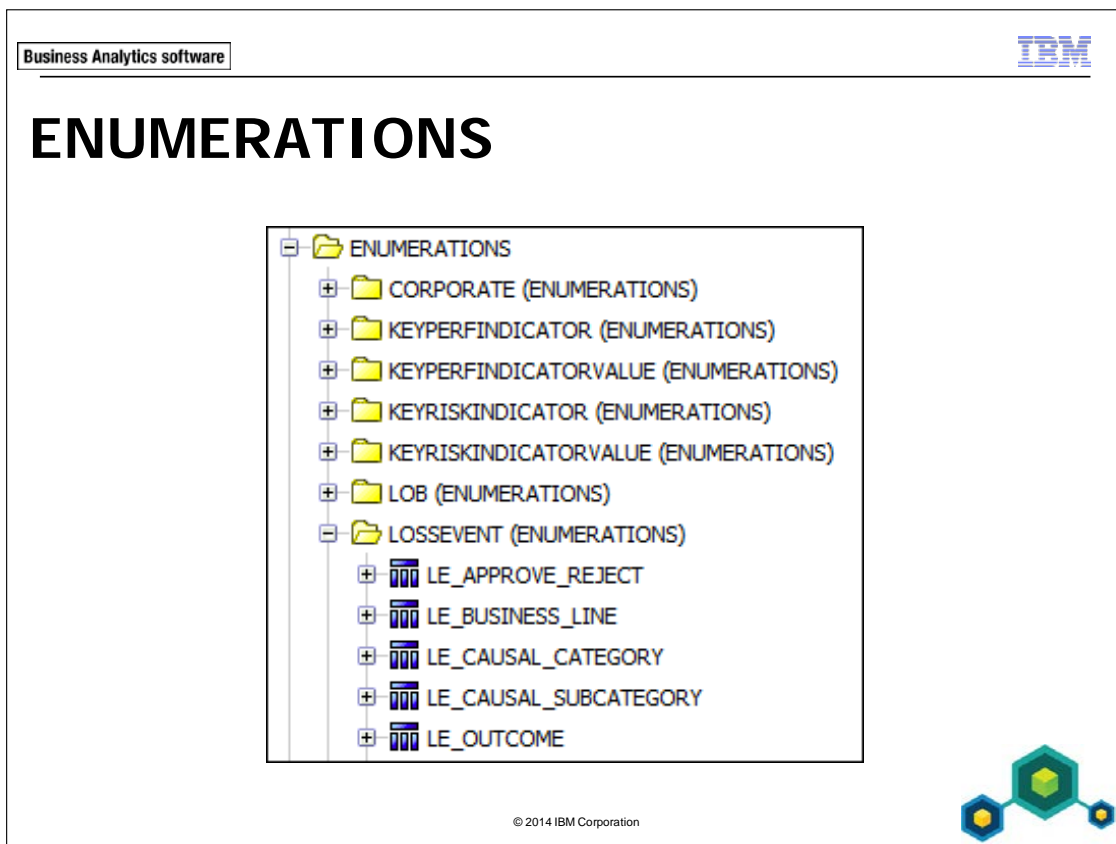


This folder contains system audit query subjects. Some of these query subjects contain embedded parameters that must have values entered before the report will run. You must provide a prompt page in your report to make it easier for the user to specify required values. It is used to create list reports that detail the following:

- who did what, when
- what was changed
- from what to what
- object lock status
- actor information
- User / Group permissions

It is also used to support out-of-the-box (OOB) system audit reports.

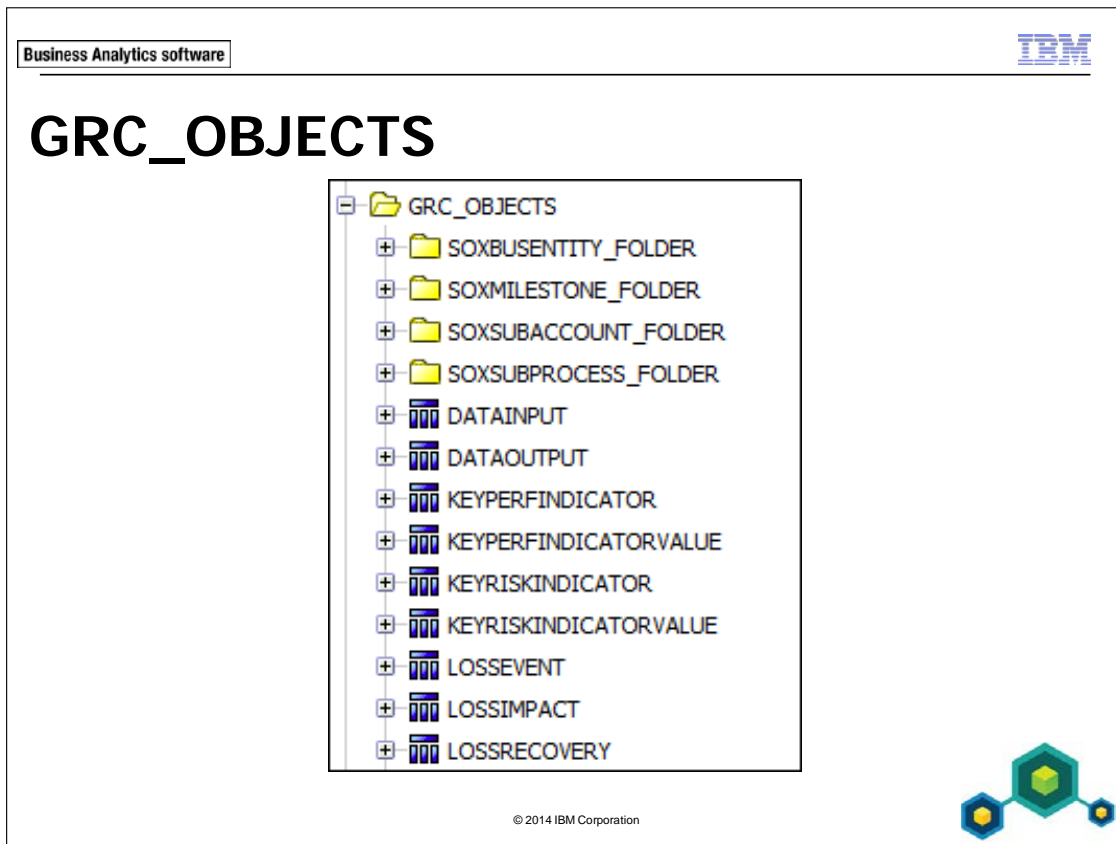
This folder is available in the DEFAULT_REL namespace only.



Contents of this folder are used for creating prompts only. It contains a folder for each primary and secondary object type that contains an enumerated field data type, and a folder for each defined entity hierarchy.

Each object type folder contains a query subject for each single- and multi-select enumerated field contained in that object type.

Using these query subjects to create prompts will significantly improve the performance of your report.




This folder contains query subjects for primary object types only. The query subjects in this folder contain SQL with left outer joins defined between object types following the hierarchy in the GRC Platform object model.











<Object Name>_FOLDER contains all query subjects related to the recursive object type defined in the GRC Platform.


<Object Name> query subject contains query items related to non-recursive object types defined in the GRC Platform.

Contents of this folder are used to create primary object Cognos reports and is the most used folder in the namespace.

Business Analytics software


Query Subjects

-   KEYRISKINDICATOR
-   KEYRISKINDICATORVALUE
-   LOSSEVENT
-   LOSSIMPACT
-   LOSSRECOVERY



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Query subjects represent object types in the GRC Platform. Each primary object query subject is linked to other primary object query subjects using SQL left-outer joins which are defined by the Parent and Child Associations configured in the GRC Platform, always starting at the top with SOXBusEntity.

Business Analytics software

IBM

Query Items

PR_CHECKED_IN_BY

PR_CREATION_DATE

PR_CREATOR

PR_DESCRIPTION

PR_DETAIL_PAGE_URL

PR_DOCUMENTATION

PR_FULL_PATH

PR_LATEST_VERSION

LE_CHECKED_IN_BY

LE_CREATION_DATE

LE_CREATOR

LE_DESCRIPTION


LE_DETAIL_PAGE_URL

LE_DISCOVERY_DATE

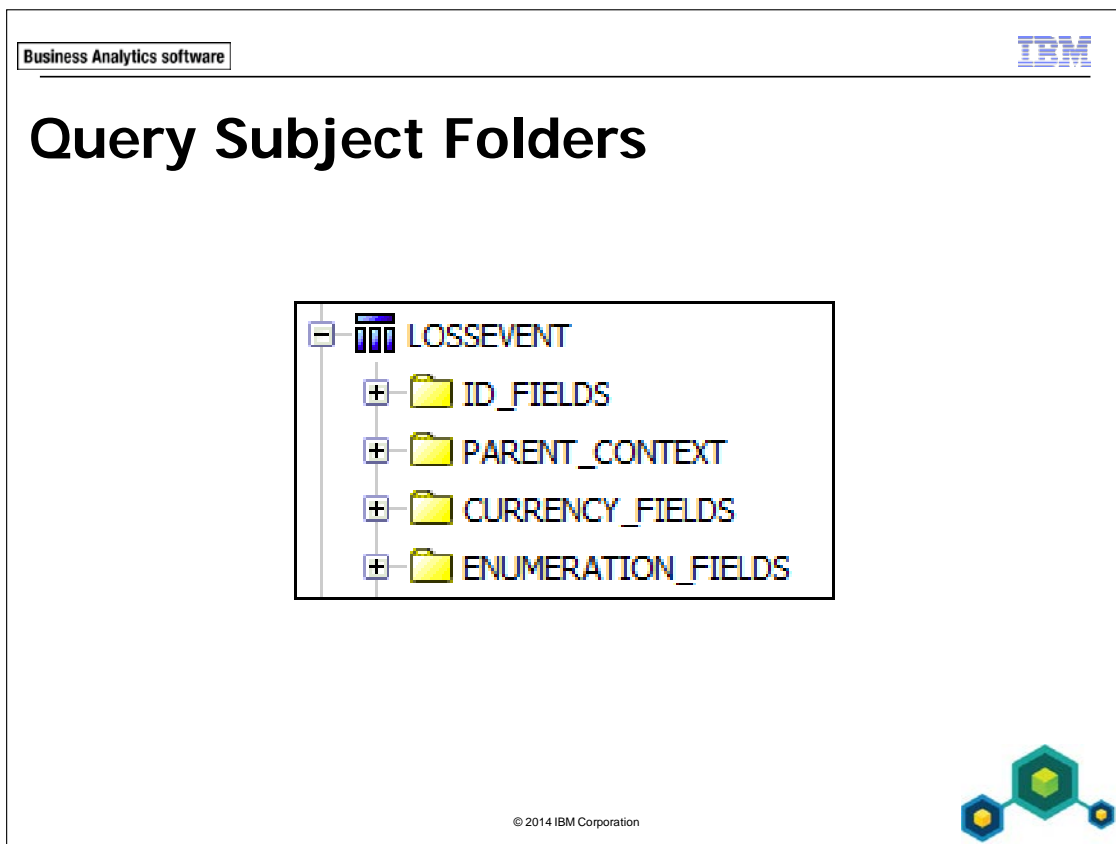
LE_FULL_PATH

LE_LATEST_VERSION

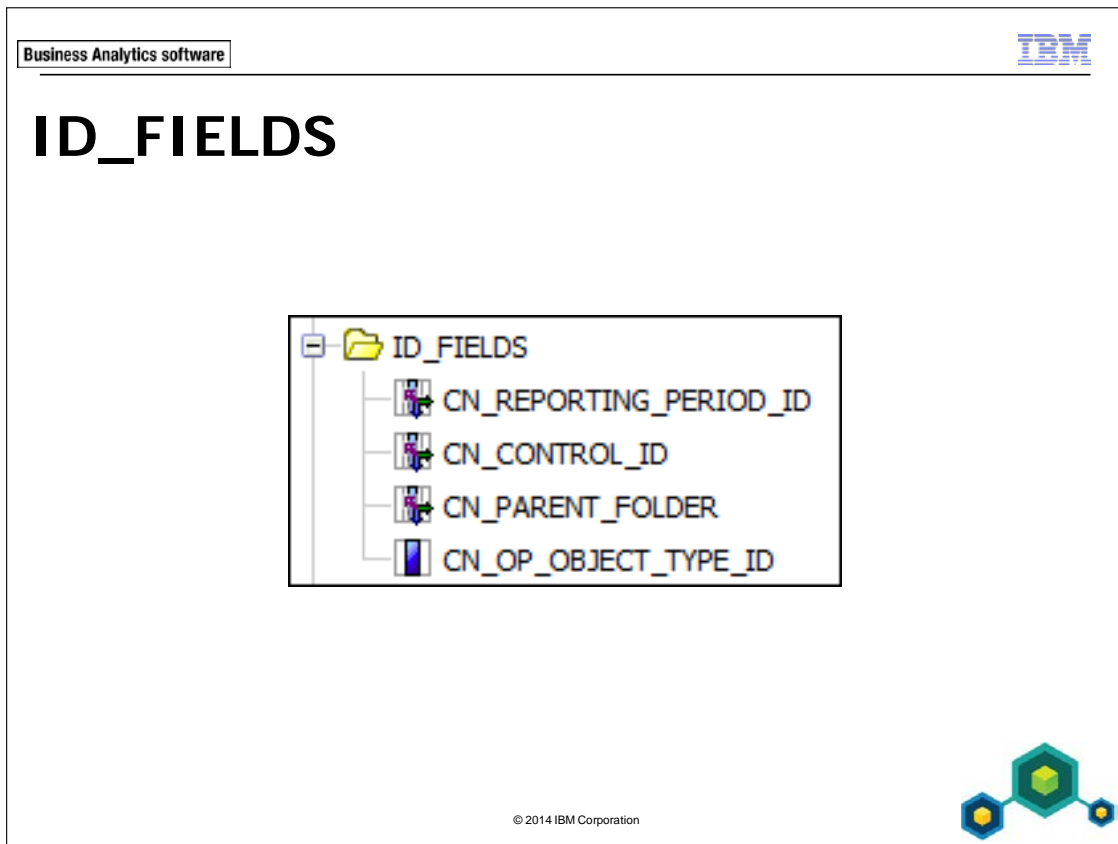
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Query items are equivalent to field definitions in the GRC Platform. The prefix indicates from which object type (query subject) the query items came. In this example, **PR** query items are from the SOXPROCESS query subject and **LE** query items are from the LOSSEVENT query subject.



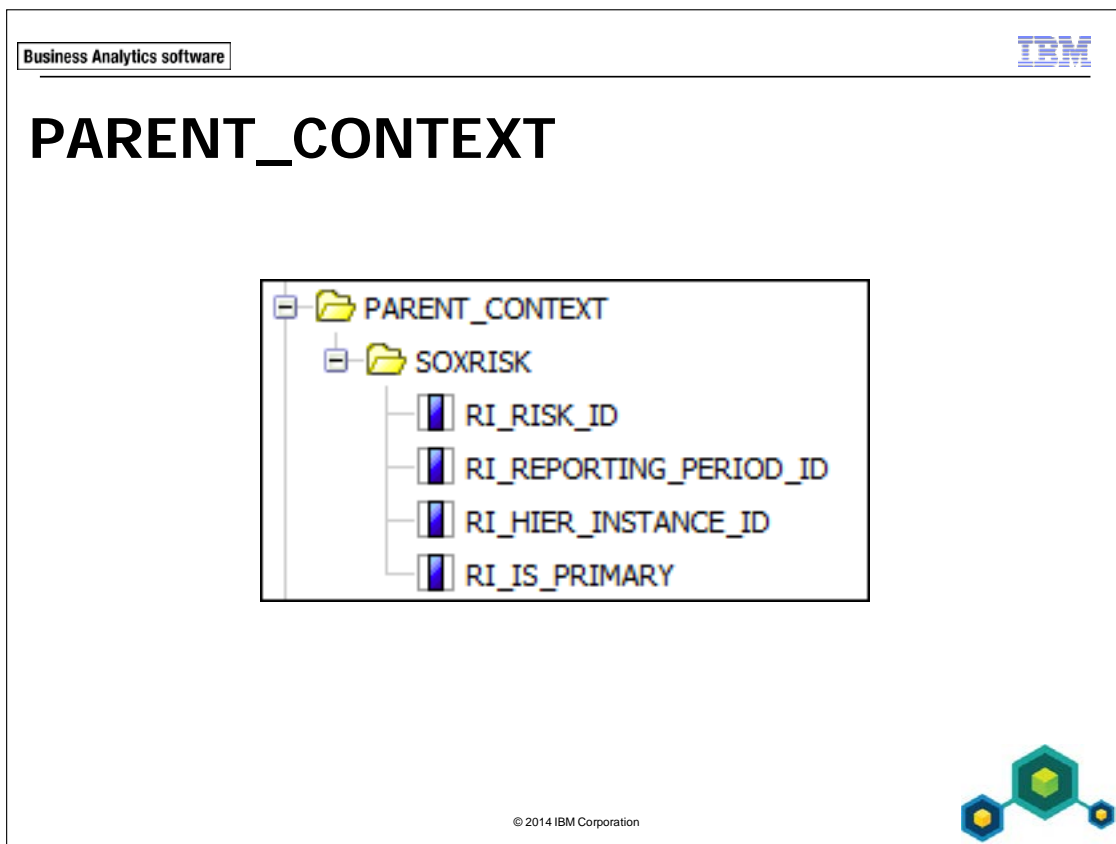
Each query subject contains three or four folders. In this example the Loss Event query subject has four folders.



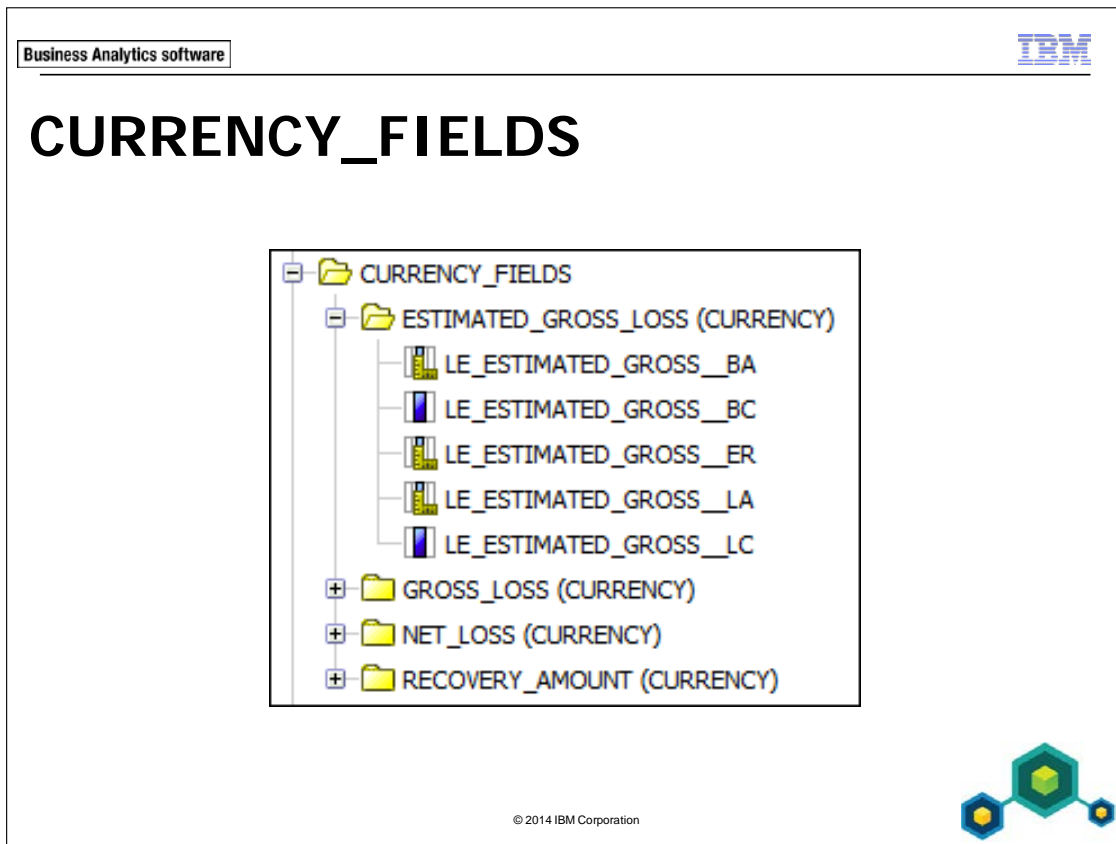
The GRC Platform generates several different types of identifier (ID). Frequently used identifiers include:

- object record ID (CN_CONTROL_ID)
- reporting period ID (CN_REPORTING_PERIOD_ID)

As a best practice, IDs are never displayed in reports; they are used for filtering and aggregations.



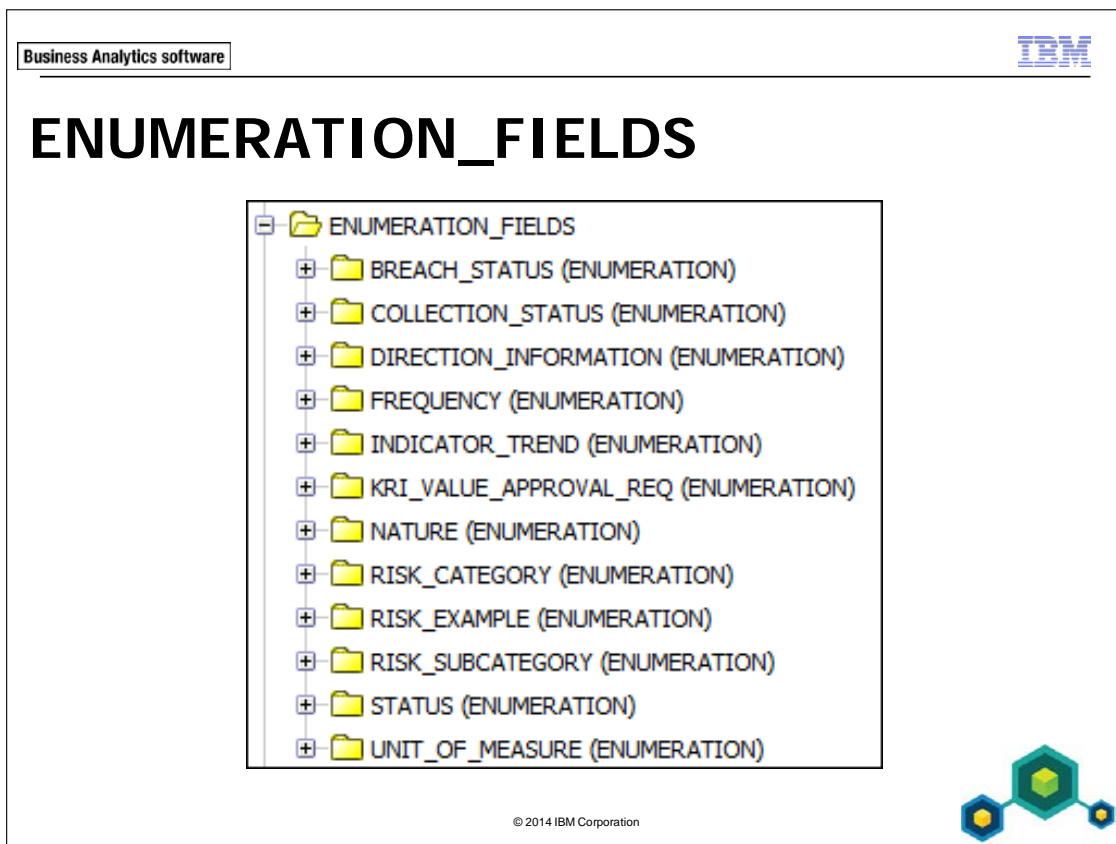
These query items identify parent records and determine whether or not the parent record is a primary parent. These can be used for filtering or in constructs, for example IF-THEN-ELSE expressions.



If the object type has field definitions of type currency, there will be a CURRENCY_FIELDS folder. This folder contains a folder for each currency field defined. In this example you see currency fields for the Loss Event object type.

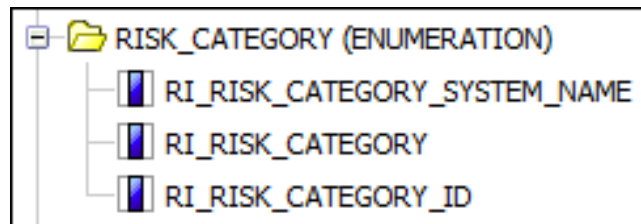
The query items will display the following information when included in a list container:

- **_LA:** Localized Amount. The value entered in the record, tied to the localized currency selected at the time the information was entered.
- **_LC:** Localized Currency. This is the ISO code for the amount entered in the GRC Platform record.
- **_ER:** Exchange Rate. This is the exchange rate used to convert the localized amount to the base amount.
- **_BA:** Base Amount. The localized amount converted using the exchange rate.
- **_BC:** Base Currency. This is the ISO code for the GRC Platform's base currency as configured during the installation of the IBM OpenPages product.



This folder contains a folder for each field of data type **Enumerated String** within the object type. In this example you see enumeration fields for the Key Risk Indicator object type.

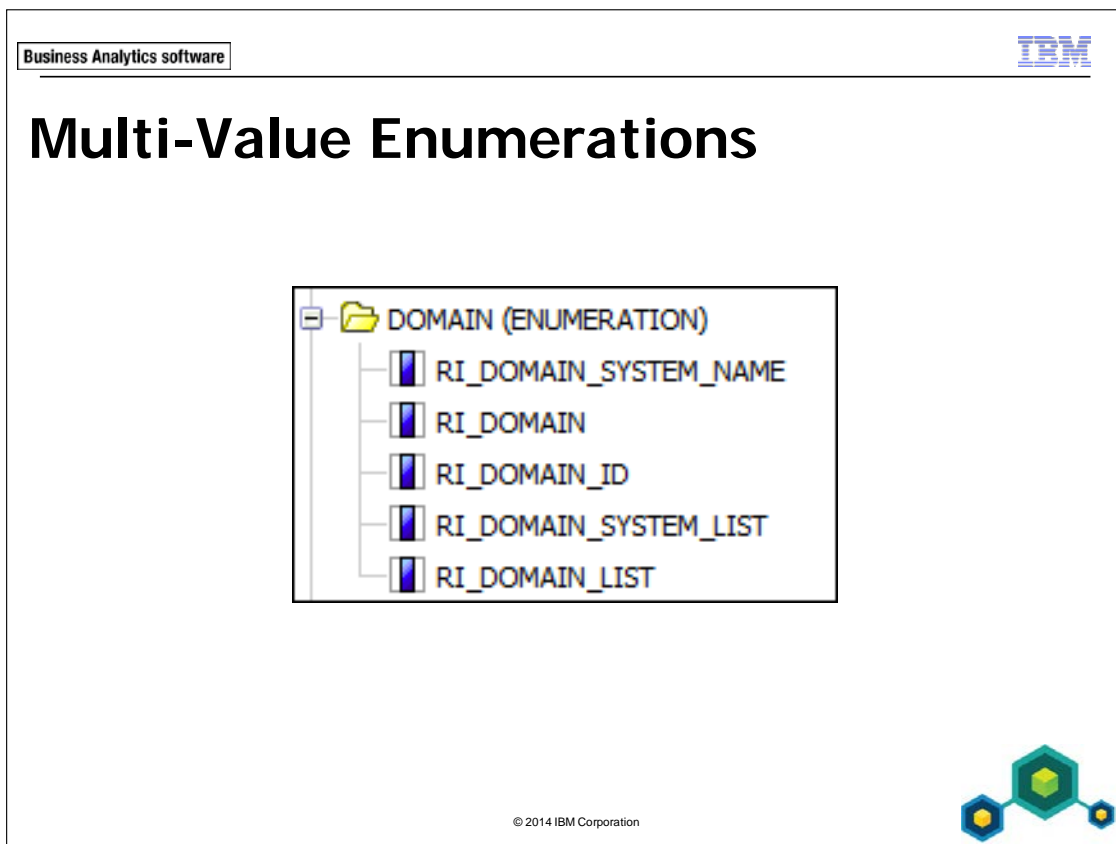
Single-Value Enumerations



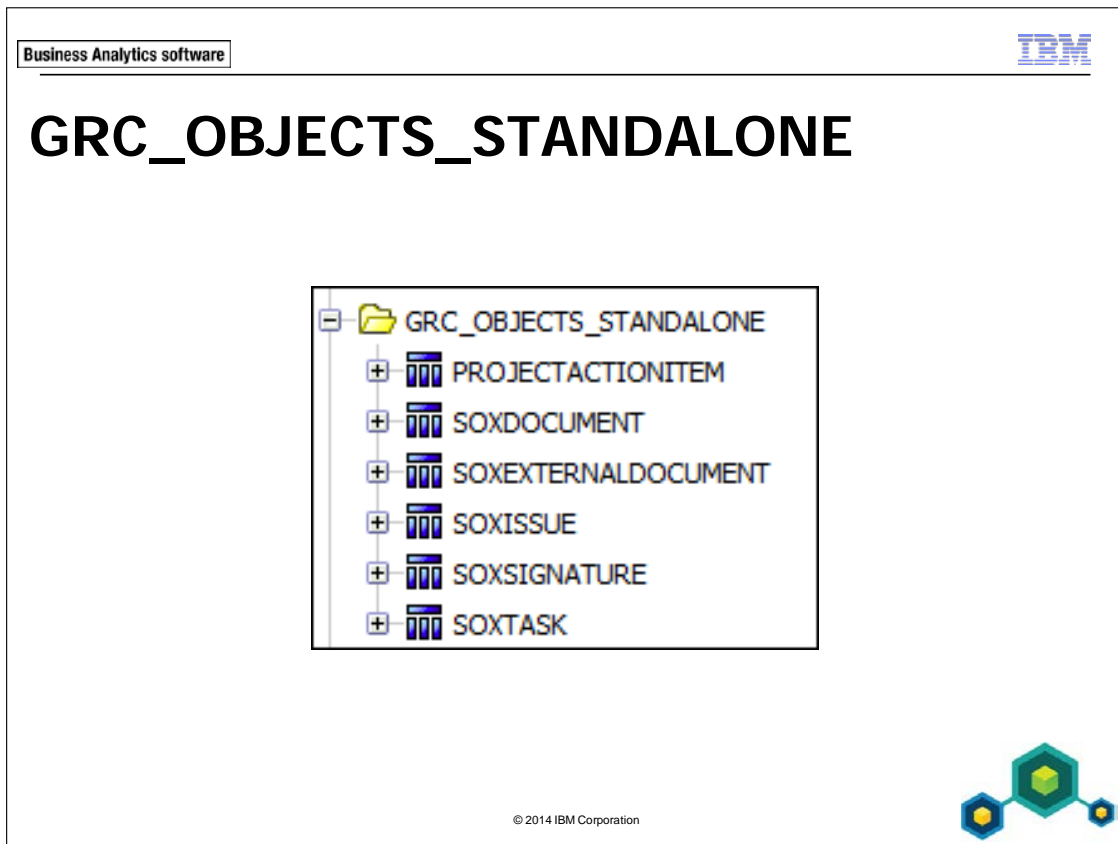
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Single-value enumeration data types will have three query items. To display the selected value, use the middle query item in the list, in this example `RI_RISK_CATEGORY`. Do not use the `_SYSTEM_NAME` query item because this will not display the correct label in the report and could be confusing to the report user.

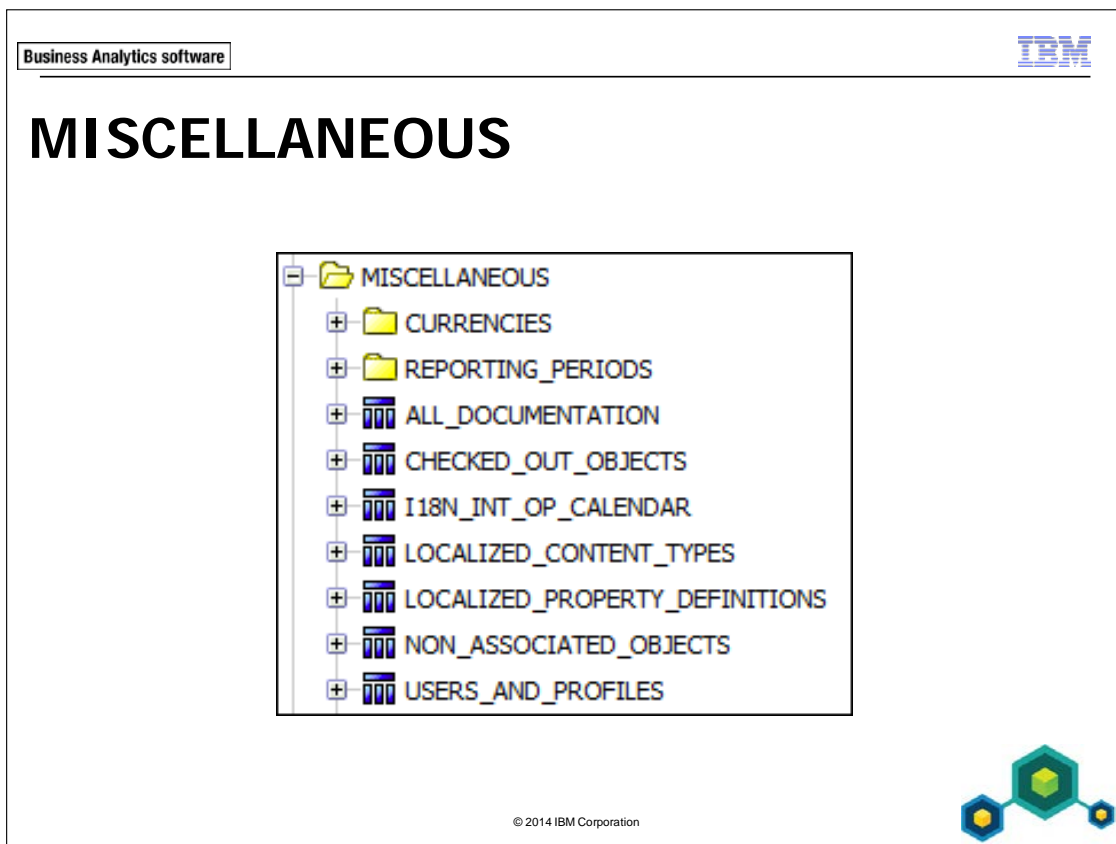


Multi-value enumeration data types will have five query items. To display the selected values, use the `_LIST` query item. This will display a comma delimited list of selected options which is ideal for use in reports viewed in spreadsheets because it avoids merged cells.



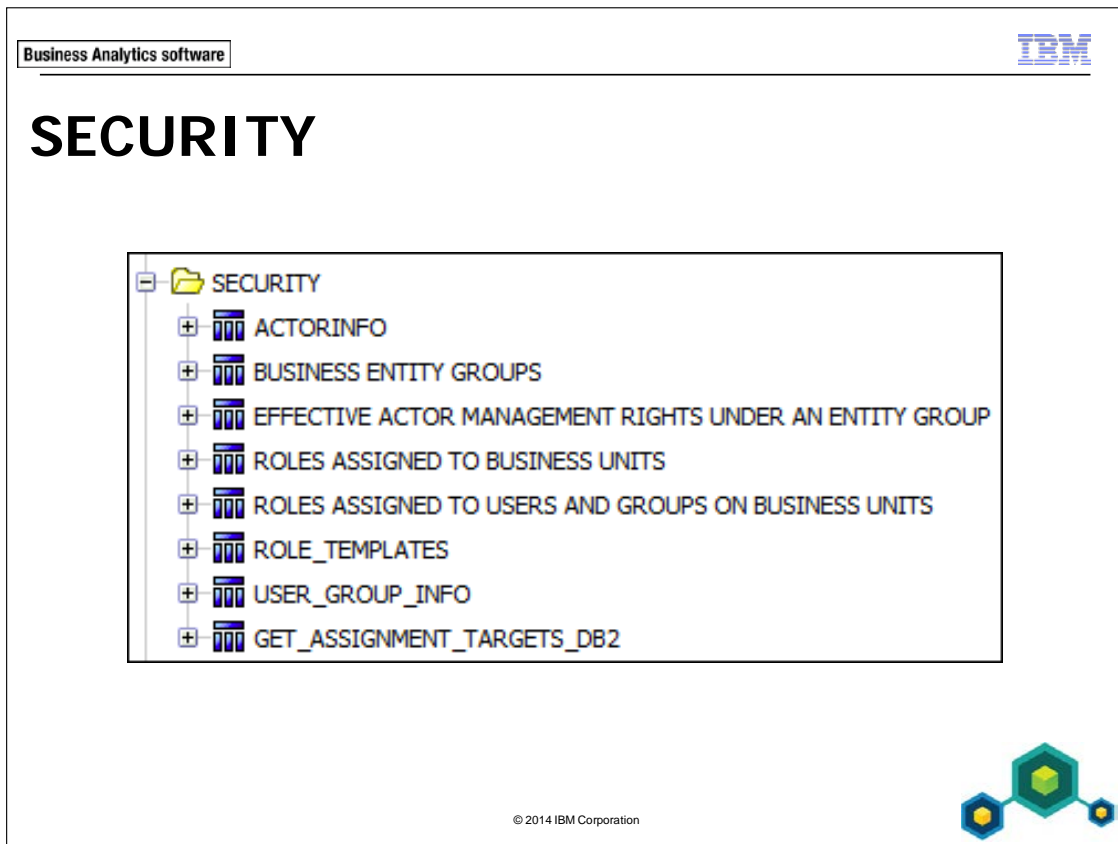
This folder contains a query subject for each secondary object type in your GRC Platform. Used for creating secondary object reports. Each query subject contains parent context. Parents are normally primary object types, but can be other secondary object types.

These six query subjects contain no SQL joins to other query subjects, with one exception: SOXIssue uses a left-outer join to SOXTask. In order to create meaningful reports using these query subjects you will need to create joins in your Report Studio reports.



The contents of this folder are used primarily for GRC Platform administration reports. Some query subjects include embedded parameters that must be resolved through a prompt, either custom or default.

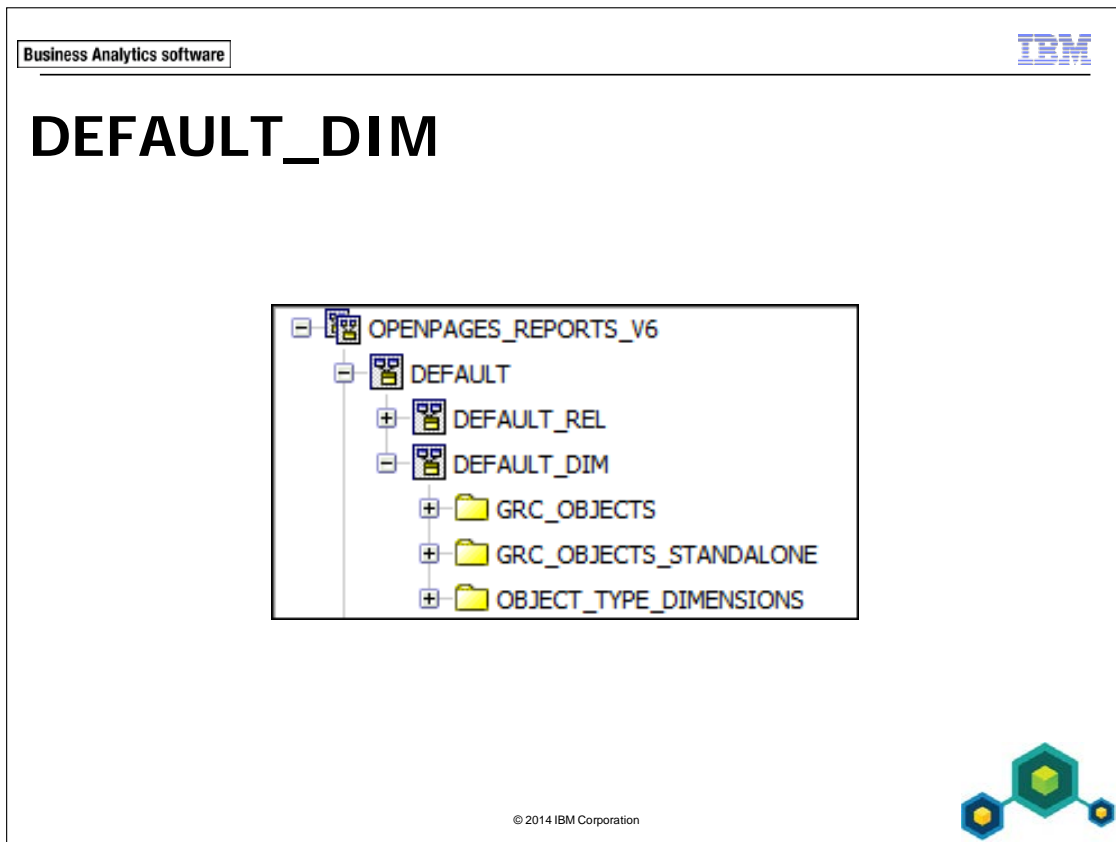
This folder is available in the DEFAULT_REL namespace only.



Used primarily for GRC Platform administration reports on users, groups, role templates, and security points.

Some query subjects include embedded parameters that must be resolved through a filter or a prompt, either custom or default.

This folder is available in the DEFAULT_REL namespace only.



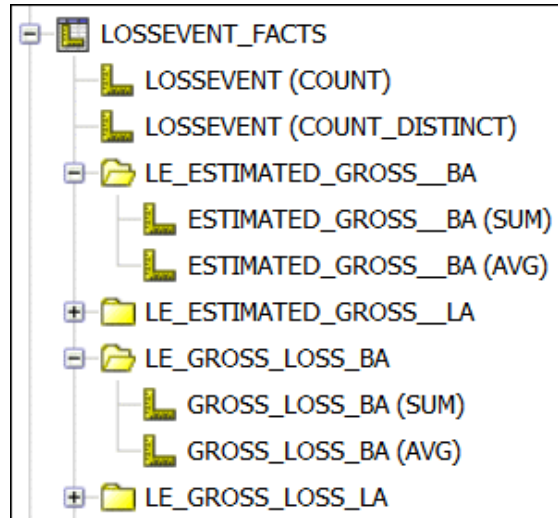
The dimensionally modeled relational namespace (_DIM) is the only one that supports drill-up and drill-down for GRC Platform reports. If your report requires drill-up and drill-down, you must use this namespace to create reports.

The modeling for this namespace is determined by the configuration of the object types, associations, facts and dimensions within the GRC Platform. Dimensionally-modeled data works well with crosstab and graphical reports (such as charts and maps).

The DEFAULT_DIM namespace contains three folders:

- **GRC_OBJECTS:** This folder contains a folder for each primary object type. Within each object type folder are facts and dimensions for that object type.
- **GRC_OBJECTS_STANDALONE:** This folder contains a folder for each secondary object type. Within each object type folder are facts and dimensions for that object type.
- **OBJECT_TYPE_DIMENSIONS:** This folder contains defined object type dimensions.

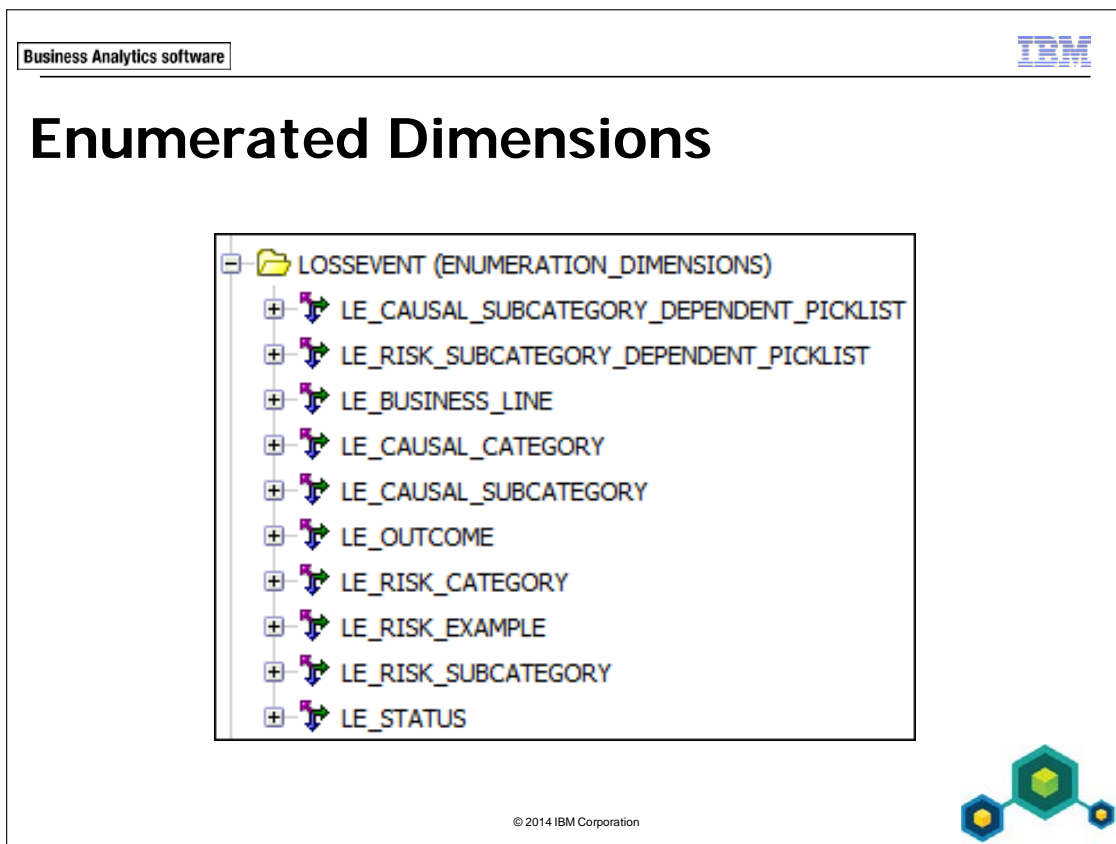
Facts and Measures



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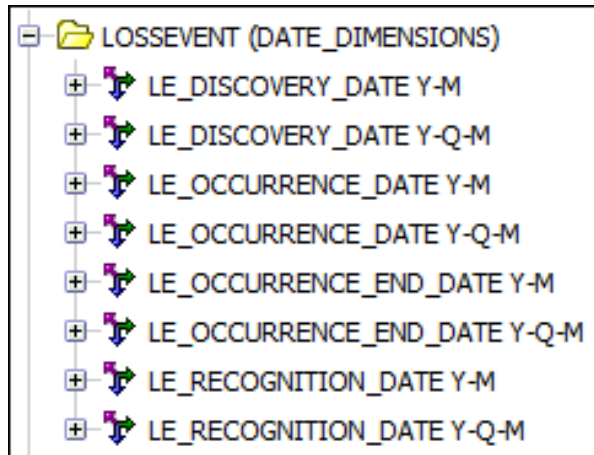
Facts are GRC Platform fields with a numeric data type (such as Currency, Integer, or Decimal) that can be aggregated and analyzed. By default, the reporting framework generator utility will generate **SUM** and **AVG** measures for enabled facts in the GRC Platform. In addition, every object type gets **COUNT** and **COUNT_DISTINCT** measures.



Enumerated dimensions include enumerated fields and dependent picklists in the GRC Platform that can be used by report authors as business filters and grouping fields. The reporting framework generator utility will generate dimensions for enabled enumerated field types in the GRC Platform.

Dependent picklist dimensions can be used for drill-up and drill-down.

Date Dimensions

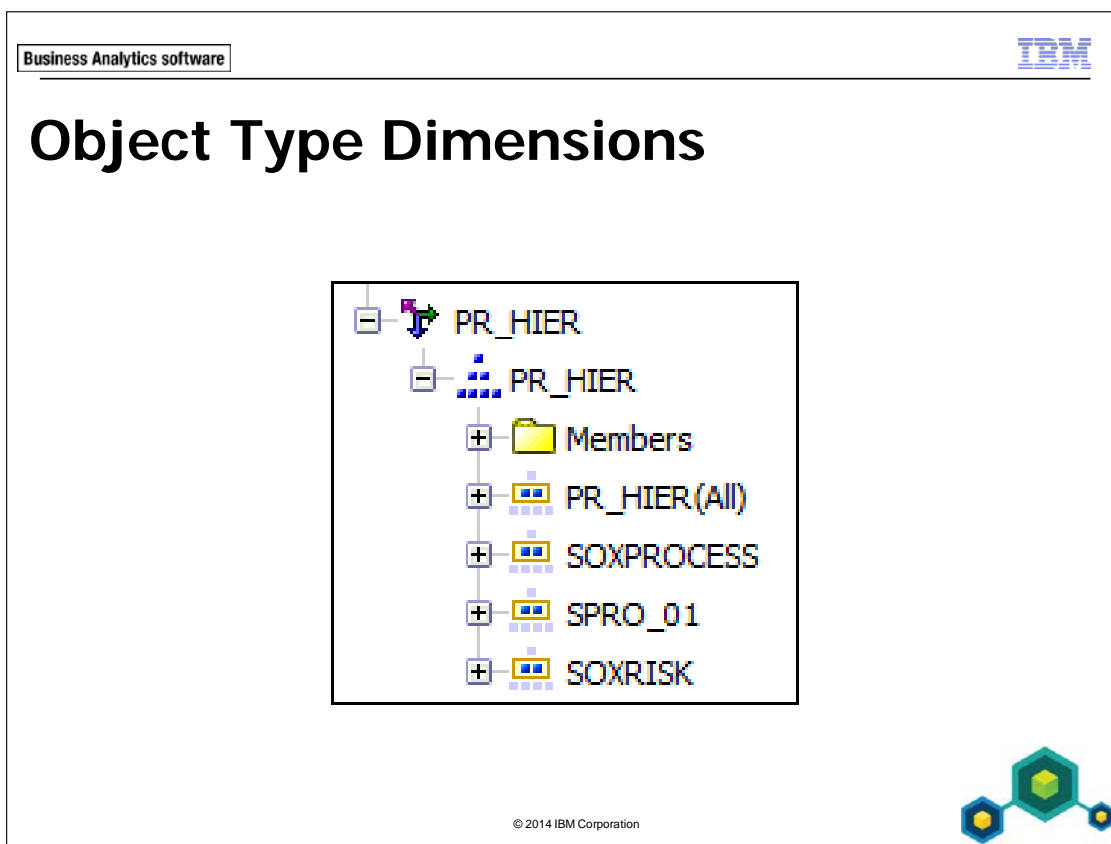


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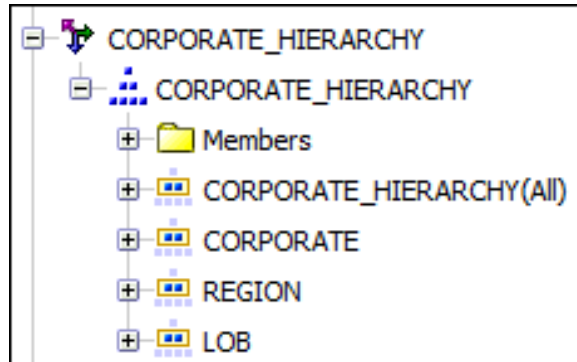
Date dimensions are date fields in the GRC Platform that can be used by report authors as business filters and grouping fields. The reporting framework generator utility will generate date dimensions for configured date field types in the GRC Platform.

Date dimensions can be used for drill-up and drill-down.



Object type dimensions are configured in the GRC Platform to enable drill-up and drill-down capability between hierarchical object types. In this example, the PR_HIER dimension can be used in reports to give the user the ability to drill-down from Process summaries to Sub Process and Risk summaries, providing greater granularity.

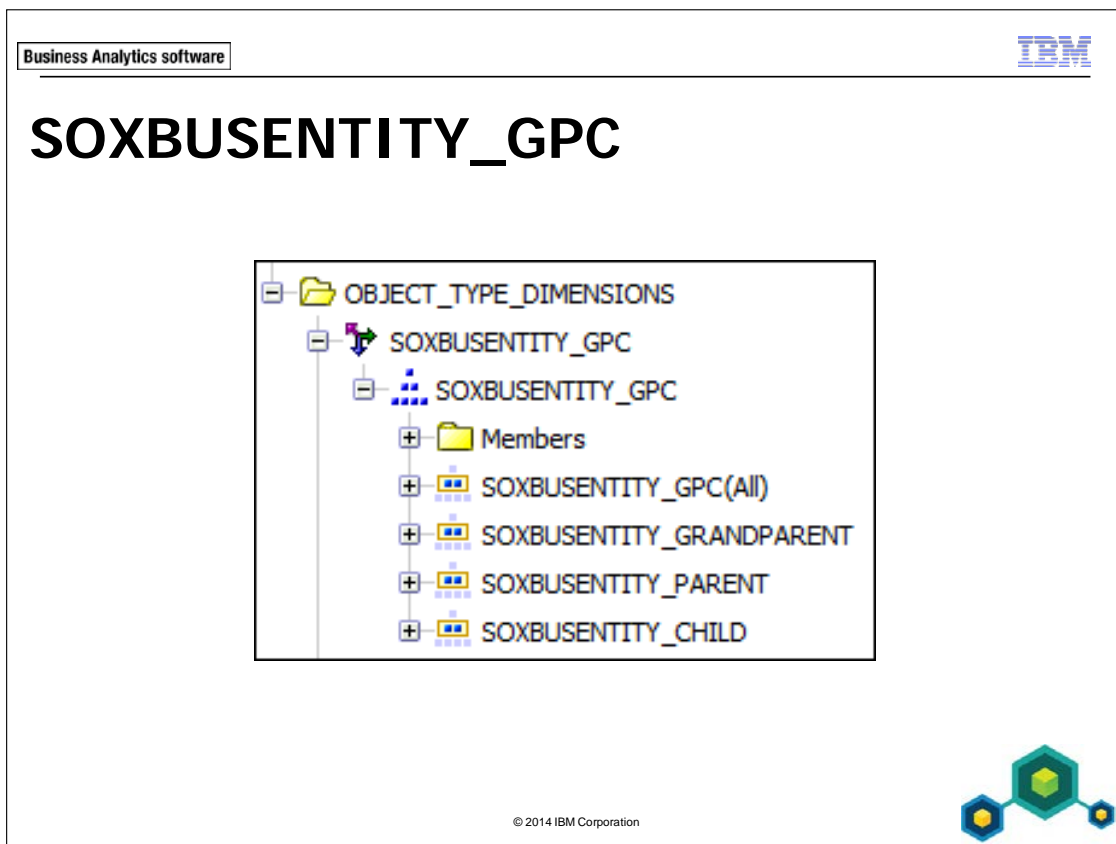
Entity Object Type Dimensions



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Entity object type dimensions are configured in the GRC Platform to enable drill-up and drill-down capability between entity hierarchy levels. In this example, the `CORPORATE_HIERARCHY` dimension can be used in reports to give the user the ability to drill-down from the Corporate hierarchy level to the Region and LOB levels, providing greater granularity.



The SOXBUENTITY_GPC dimension is designed to be used for filtering only. Do not use it for aggregations or displaying information in reports, the results could be inaccurate.

Summary

- At the end of this module, you should be able to:
 - understand from where the IBM Cognos package originates
 - recognize the namespaces within the generated reporting framework
 - identify the relational model namespace
 - identify the dimensionally modeled relational namespace
 - define measures available in the GRC Platform
 - define dimensions available in the GRC Platform

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Namespaces

IBM OpenPages: Report Authoring (v7.0)

Business Analytics software

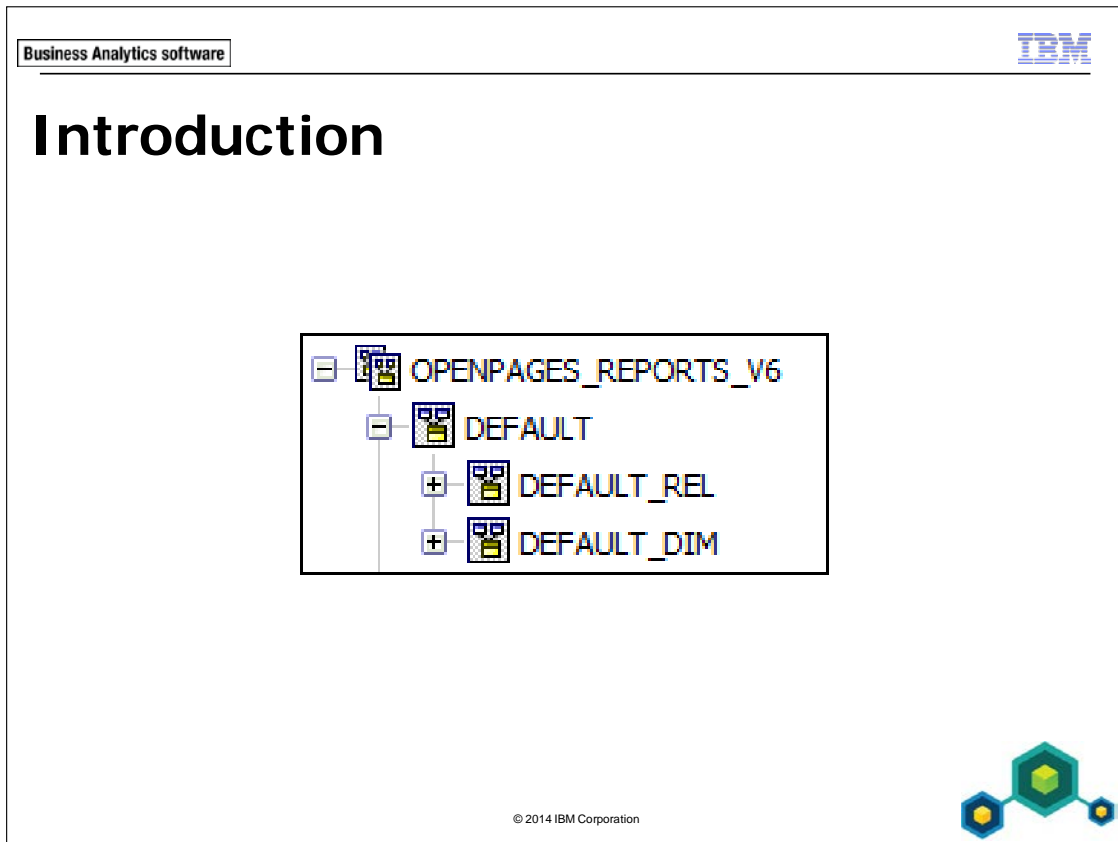
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Objectives

- At the end of this module, you should be able to:
 - define the namespaces in the IBM OpenPages reporting framework
 - describe parent|child object type pairs
 - understand IBM OpenPages object model map
 - explain recursive object types
 - specify requirements for a namespace
 - create a namespace object model expression

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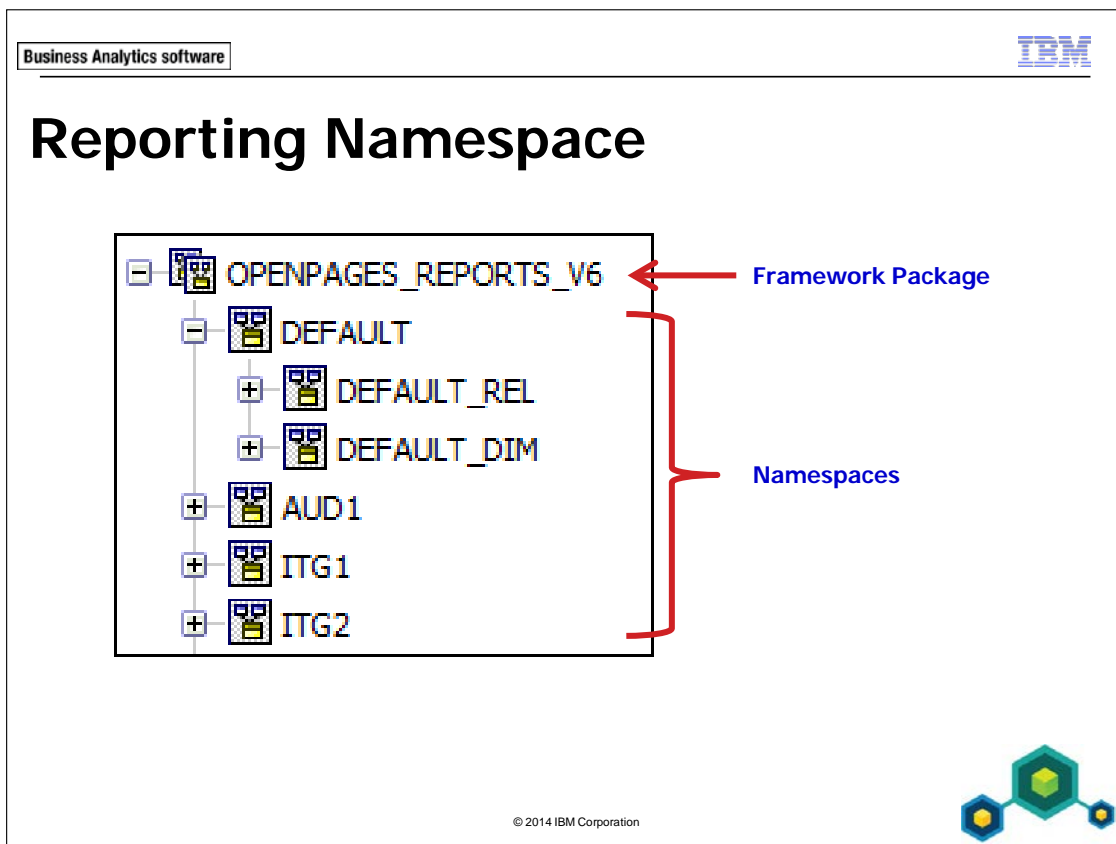
IBM OpenPages Reporting Framework V6 supports two data models:

- A relational model based upon the object types defined in your system and their relationship to each other.
- A dimensional model based upon facts and dimensions selected for each object type.

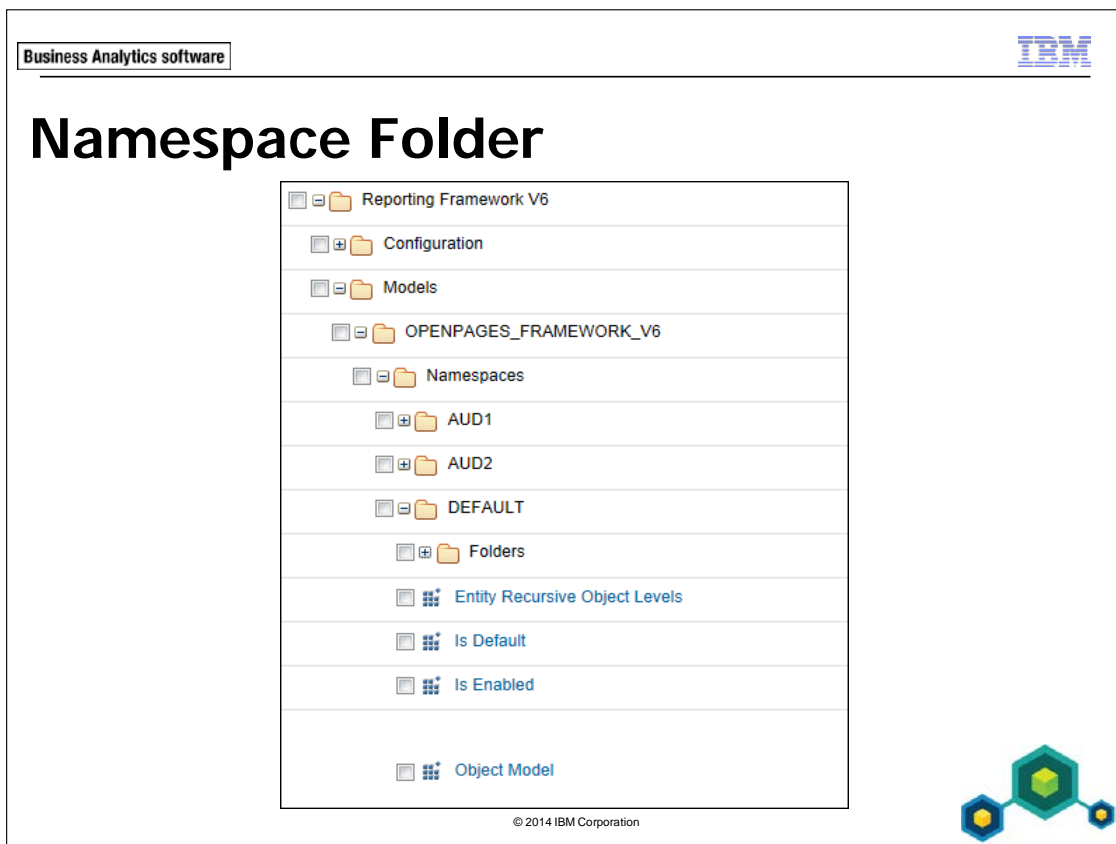
When the Reporting Framework V6 is generated, the OPENPAGES_REPORTS_V6 package is published to the Cognos server with the following default namespaces:

- **DEFAULT_REL** — this relational namespace is similar to the framework model included with previous versions of IBM OpenPages but has been reorganized for easier access and higher performance.
- **DEFAULT_DIM** — this dimensional namespace is organized into facts and dimensions, and gives report authors access to the online analytical processing (OLAP) features that are available in Cognos.

Using the query subjects and query items in these namespaces, report authors can create a variety of reports for execution from within IBM GRC Platform.



A namespace configured in the GRC Platform is used by the reporting framework generator utility to create the framework package used by the Cognos BI studios to create reports.



Namespaces appear as folders in the registry settings accessed from the GRC Platform Administration menu. There are 5 entries within each folder:

1. Folders (optional)
2. Entity Recursive Object Levels (optional)
3. Is Default (optional)
4. Is Enabled (optional)
5. Object Model (required)

The 'Folders' folder should not be added to any new namespaces you create. It contains information that only needs to appear in one of the namespaces. By default, it appears in the DEFAULT namespace.

The 'Entity Recursive Object Levels' is needed only when you want to include configured entity recursive object levels in your new namespace.

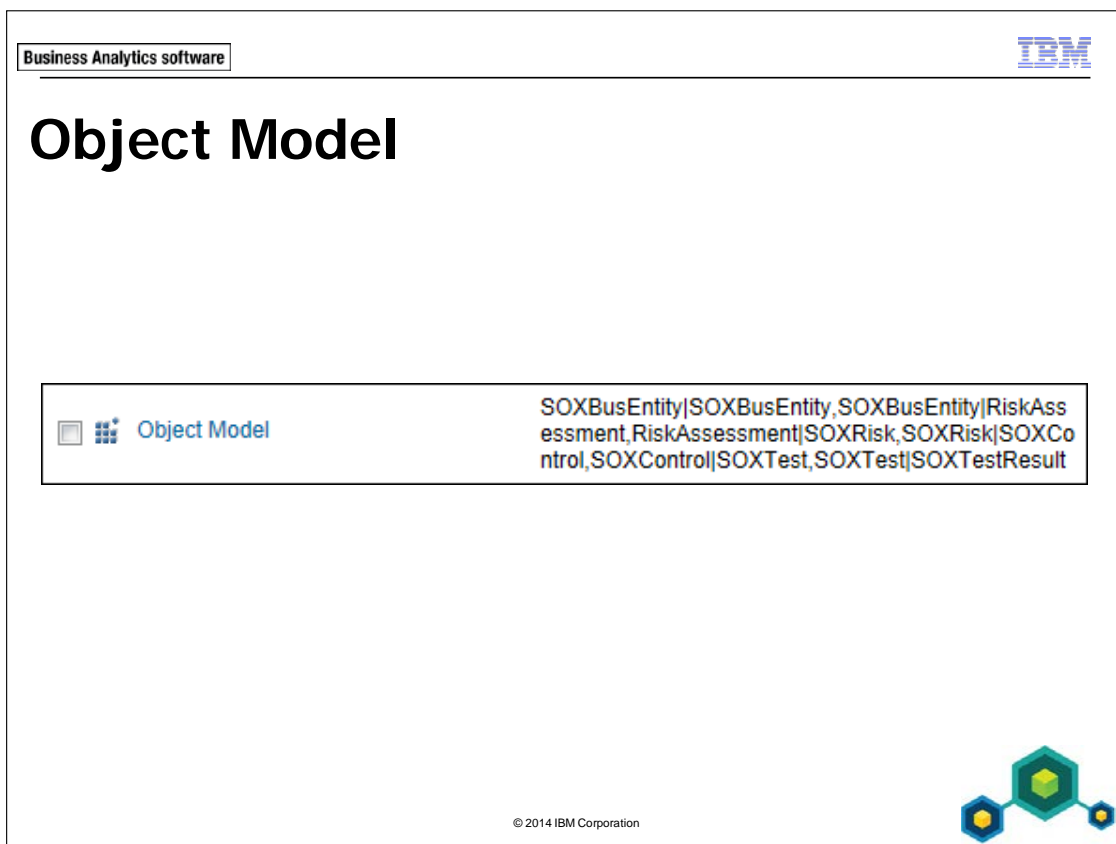
The 'Is Default' option should always be set to 'false' for any new namespaces created. Only one namespace may be designated as the default namespace. Currently, the 'DEFAULT' namespace is the designated default namespace and should not be changed.

The 'Is Enabled' option should always be set to 'true'. If set to 'false', the next time the reporting framework is updated, that namespace will be removed from the Cognos BI framework package.

To access the namespaces folder:

Administration | OpenPages | Platform | Reporting Framework V6 |
Models | OPENPAGES_FRAMEWORK_V6 | Namespaces

NOTE: Namespace configurations are used to generate the relational namespaces (_REL) only. DMR namespace (_DIM) configuration is a separate topic in the *IBM OpenPages: Administration (v7.0)* course.

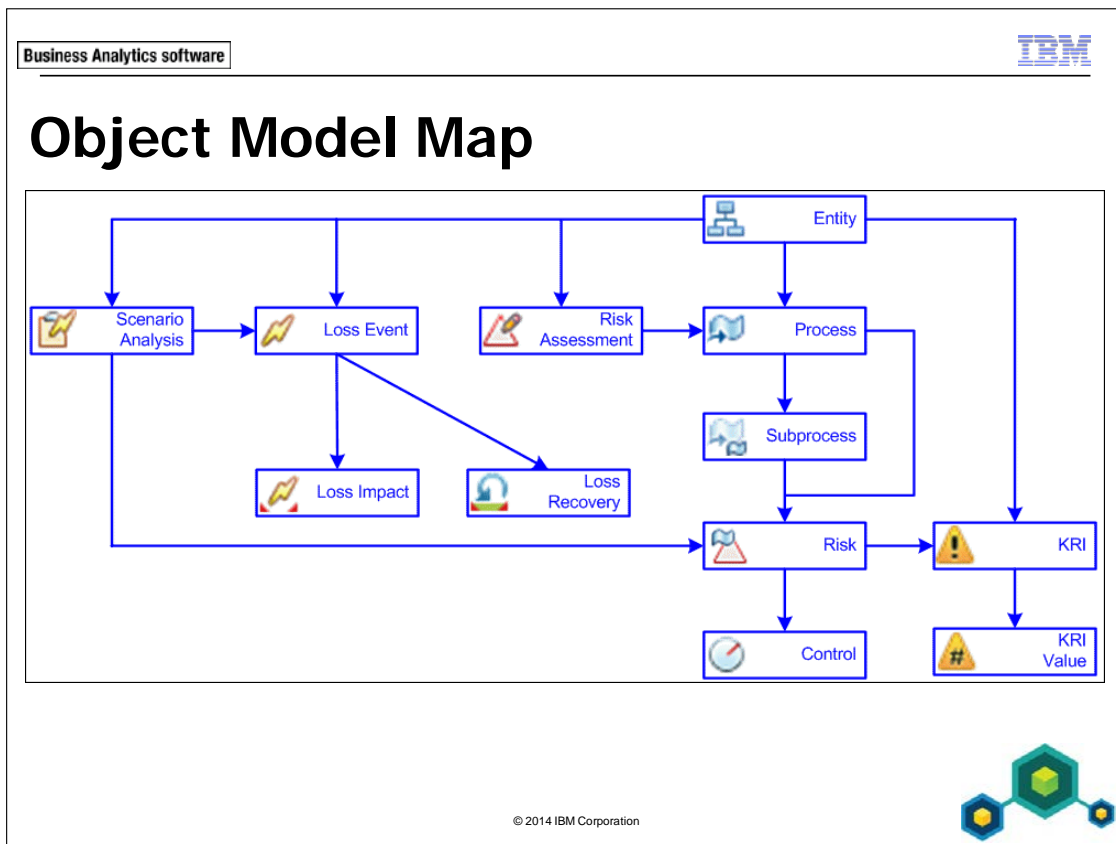


The object model contains object type parent | child pairs. These parent | child associations are defined in the GRC Platform. Only configured pairs may be entered otherwise errors will occur when the reporting framework generator is run.

Only primary object types may be used.

The order in which parent | child pairs appear is not important.

Each pair is separated by a comma; no spaces.



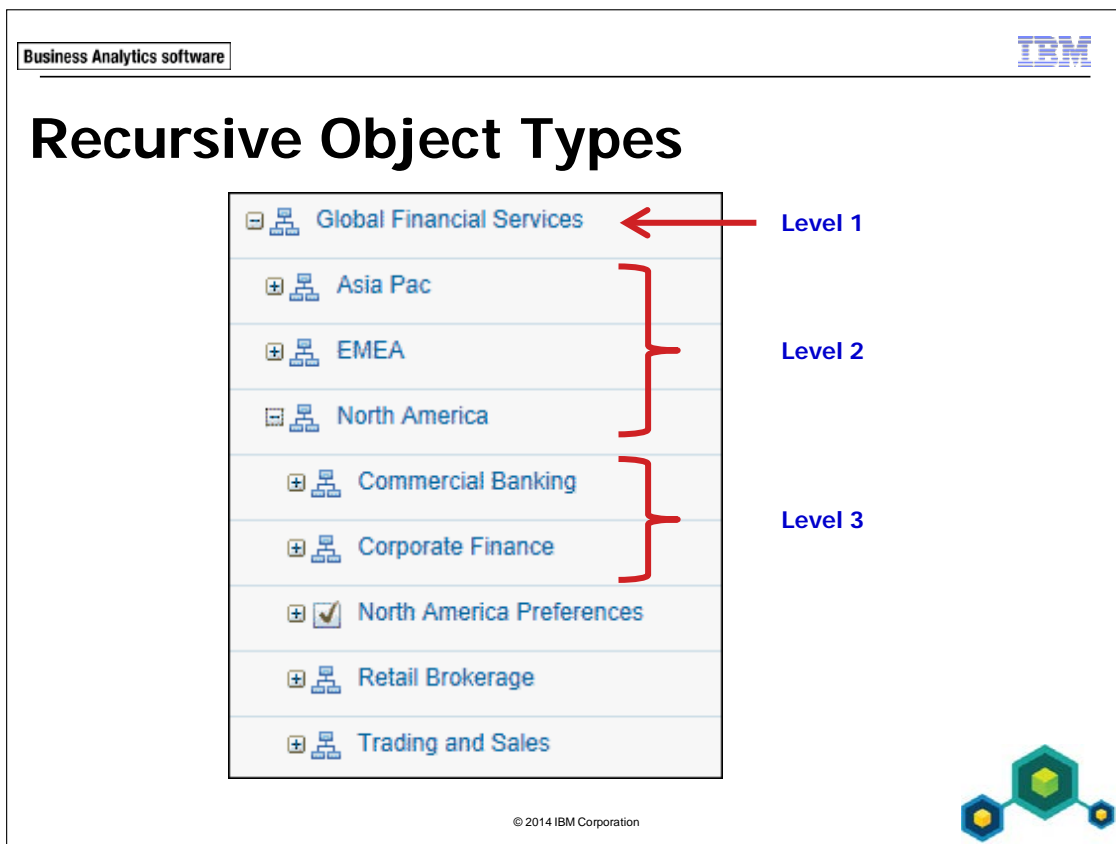
An object model map can be used to illustrate the need for namespaces. Each parent-child association will create an SQL left outer join in the generated reporting framework. For example, the Entity-Process pair will generate a left outer join between the SOXBusEntity and SOXProcess object types.

In this illustration, there are five paths that can be taken to get from an entity to a risk record.

- Entity > Process > Risk
- Entity > Process > Sub-Process > Risk
- Entity > Risk Assessment > Process > Risk
- Entity > Risk Assessment > Process > Sub-Process > Risk
- Entity > Scenario Analysis > Risk

To make the report author's job easier, and enhance the performance of reports, it is a best practice to create a separate namespace for each unique path. However, there are two paths that do not need namespaces, the two that contain 'Sub-Process' in the path. The sub-process is a recursive object type and gets special treatment in namespaces.

Therefore, you only need to create three namespaces to provide the report author with tools to create reports that will display all risk records based upon a specific path.



A recursive object type can repeat itself indefinitely or until some set limit is reached. The following object types are recursive within the IBM OpenPages application:

- SOXBusEntity
- SOXSubaccount
- SOXSubprocess
- Submandate

Special parent | child pairs are defined for each recursive object type included in a namespace:

- SOXBusEntity | SOXBusEntity
- SOXSubaccount | SOXSubaccount
- SOXSubprocess | SOXSubprocess
- Submandate | Submandate

BEST PRACTICE: Place these parent | child pairs at the beginning of the object model expression.



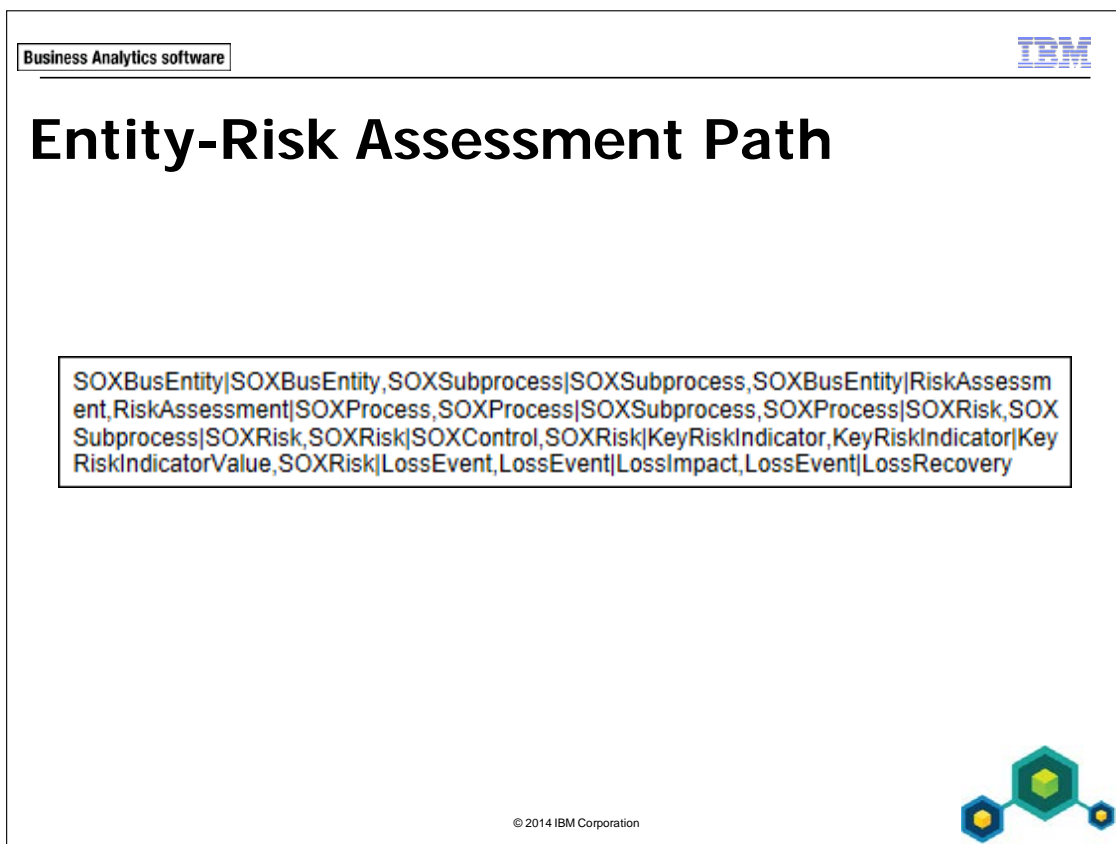
This object model provides the configuration needed to satisfy two of the paths:

- Entity > Process > Risk
- Entity > Process > Sub-Process > Risk

As mentioned previously, recursive object types get special treatment when configuring namespaces. These two paths contain two recursive object types, SOXBusEntity and SOXSubprocess. Note the first two parent|child pairs in the object model. Whenever you have recursive object types in a path, you need to specify them in the namespace object model as both the parent and child. Here you see ‘SOXBusEntity|SOXBusEntity’ and ‘SOXSubprocess|SOXSubprocess’. A best practice is to place your recursive object types pairs at the beginning of the object model, but it is not required.

Note in the object model there are two instances in which SOXRisk is the child: 'SOXProcess | SOXRisk, SOXSubprocess | SOXRisk'. Normally this is not permitted, but since the SOXSubprocess is a recursive object type, this is allowed and necessary. This is referred to as a 'triangle relationship'.

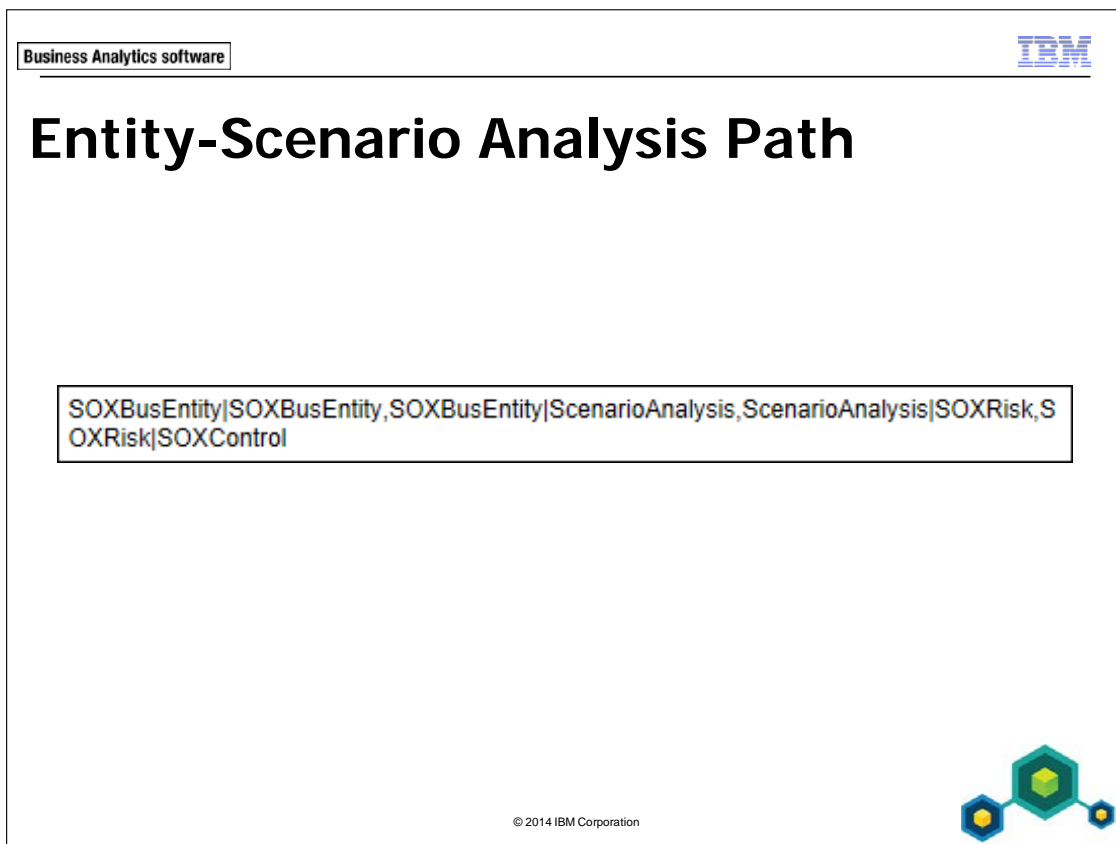
Also note that there are two instances in which SOXRisk is the parent. This is permitted. An object type can appear numerous times as a parent.



This object model provides the configuration needed to satisfy two of the paths:

- Entity > Risk Assessment > Process > Risk
- Entity > Risk Assessment > Process > Sub-Process > Risk

Again, there are two recursive object types involved. Note that this object model includes the Loss Event group of object types. A report author will be able to create reports involving loss events with this namespace.



This object model provides the configuration needed to satisfy the one remaining path:

- Entity > Scenario Analysis > Risk

SOXSubprocess is not included in this path so there is no need to add it to the object model as a recursive object type.

Demo 1

- Create a Reporting Namespace

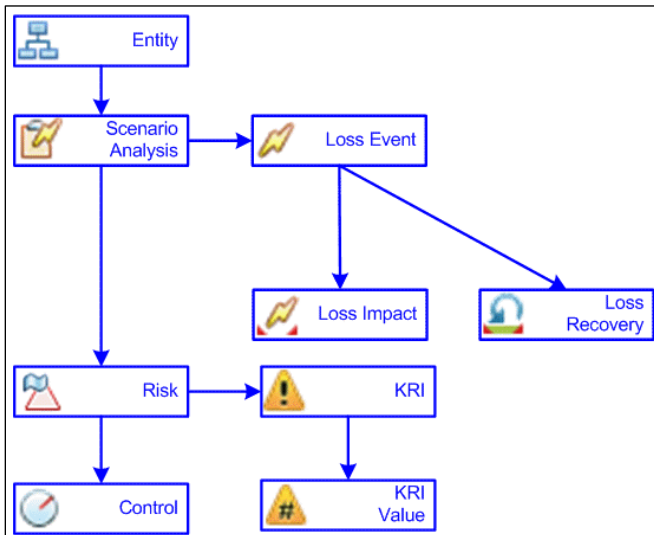
```
SOXBusEntity|SOXBusEntity,SOXBusEntity|ScenarioAnalysis,ScenarioAnalysis|SOXRisk,  
ScenarioAnalysis|LossEvent,SOXRisk|SOXControl,SOXRisk|KeyRiskIndicator,KeyRiskIndi  
cator|KeyRiskIndicatorValue,LossEvent|LossImpact,LossEvent|LossRecovery
```



Demo 1: Create a Reporting Namespace

Purpose:

Your company's senior report author has requested a new namespace be added to the IBM OpenPages GRC Platform so he can create a series of reports for a group of analysts. Here is the object model map:



Portal: <http://optrainvm:10108/openpages/>

User/Password: **ORMadmin/ORMadmin**

Task 1. Log into the IBM OpenPages GRC Platform.

1. From the **OpenPages** log in page, type in the following credentials:
 - User Name: **ORMadmin**
 - Password: **ORMadmin**
2. Click **Log In**.

Task 2. Confirm two registry settings.

1. Point to the **Administration** menu.
2. From the **Application** section, click **Settings**.
3. Expand the root folder.
4. Navigate to **OpenPages | Applications | Common | Configuration**.
5. Verify the **Allow Create and Delete Settings** is set to **true**.
6. Verify the **Show Hidden Settings** is set to **true**.

Task 3. Add a new namespace.

1. Navigate to **OpenPages | Platform | Reporting Framework V6 | Models | OPENPAGES_FRAMEWORK_V6 | Namespaces**.
2. Select the check box for **Namespaces**.
3. At the top of the screen, click **Add Folder**.
4. Use the following information:
 - **Folder Name:** SA1
5. Click **OK**.
6. Clear the checkbox for **Namespaces**.
7. Refresh the screen by expanding or collapsing the **Namespaces** folder. Expand the **Namespaces** folder.
8. You can not expand the newly created **SA1** folder.
Note that it is empty.
9. Expand the **REGAPP1** folder, and then select the check box for **Object Model**.
10. At the top of the screen, click **Copy To**.
11. Select the check box for **SA1**, and then click **OK**.
12. Clear the checkbox for **REGAPP1** Object Model.
13. Click **Object Model** under **SA1**.
14. Delete the contents of the **Value** field.

You can enter the parent|child pair expression in different ways. You can enter the expression in a text editor, verify your work and then copy and paste the expression into the value field. Or, you can enter the parent|child pairs directly into the value field. Whichever method you choose, use the following to determine the parent|child pairs required.

- There is one recursive object type: Entity.
 - Three object types have more than one child.
15. Confirm object type name syntax; this is very important.
HINT: Copy and paste from existing namespaces.
 16. Enter the expression in the value field.
 17. Click **Save**.
 18. From the main title toolbar, click **Log Out**.
 19. Close all browser windows.

You can compare your expression with the solution file **SA1_Namespace.txt** in the **C:\Edopenpages\Namespace Solution** directory.

Results:

You have added a new namespace to the IBM OpenPages GRC Platform.

Summary

- At the end of this module, you should be able to:
 - define the namespaces in the IBM OpenPages reporting framework
 - describe parent|child object type pairs
 - understand IBM OpenPages object model map
 - explain recursive object types
 - specify requirements for a namespace
 - create a namespace object model expression

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Using Cognos Workspace Advanced

IBM OpenPages: Report Authoring (v7.0)

Business Analytics software

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Objectives

- At the end of this module, you should be able to:
 - identify key portions of the working environment
 - identify the metadata tree view
 - differentiate between page preview and design views
 - locate the ancestor selector
 - list key GRC Platform report filters
 - define crosstab nested edges

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Cognos Workspace Advanced

- Alternative to Cognos Report Studio.
- Features and functionality similar to Report Studio.
- Some limitations compared to Report Studio:
 - cannot create unions and joins,
 - essential to issue and action item reports
 - fewer filtering options,
 - cannot access the report query.
- Creating reports may be quicker than in Report Studio.


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The Workspace Advanced and Report Studio report specifications are the same. Reports created in one can be opened, edited, and saved in the other. This can be useful if additional complex filtering in a Workspace Advanced report is needed.

Workspace Advanced reports can be added to the GRC Platform reporting menu in the same manner as a Report Studio report.







Workspace Advanced works well for crosstab and chart reports.

Business Analytics software


Accessing Workspace Advanced

Cognos Connection


My Actions

-  Create a workspace on the web
-  **Author business reports**
-  Query my data
-  Analyze my business
-  Author advanced reports
-  Manage my events

GRC Platform

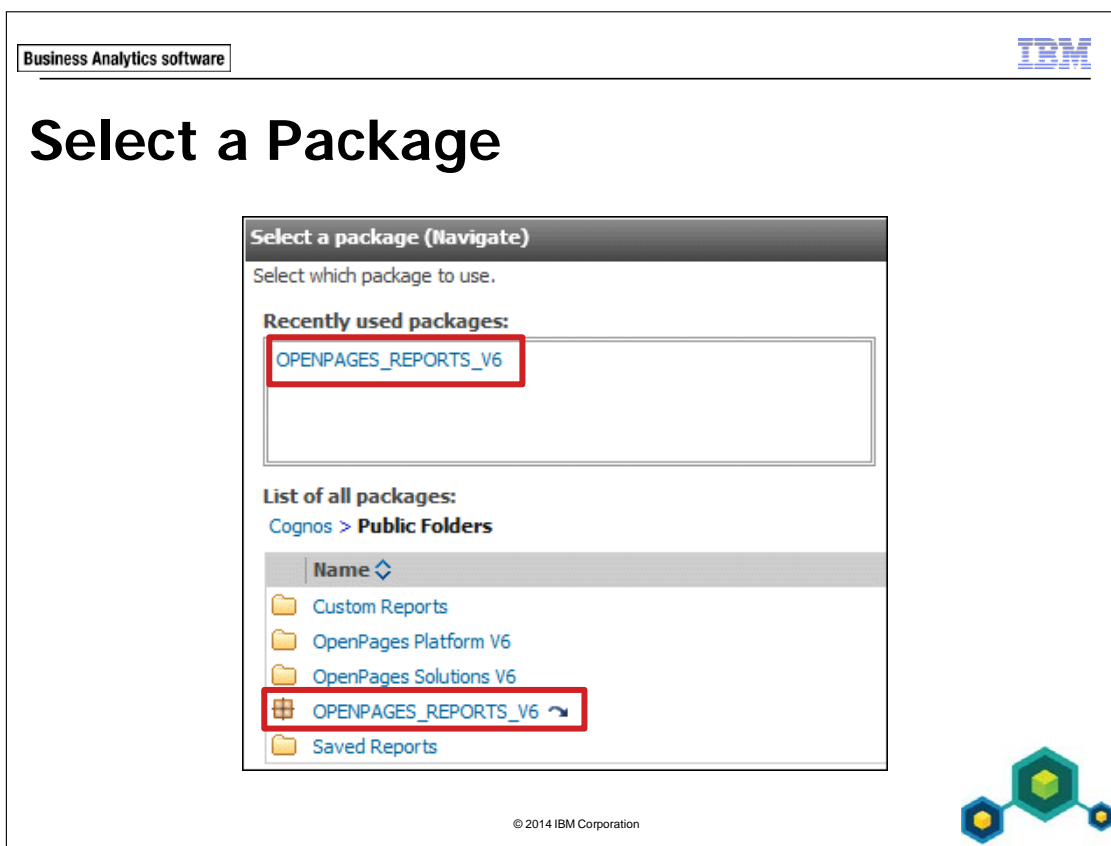
- ◆ All Reports
- ◆ Cognos Analysis Studio
- ◆ Cognos Connection
- ◆ Cognos Query Studio
- ◆ Cognos Report Studio
- ◆ Cognos Workspace
- ◆ Cognos Workspace Advanced

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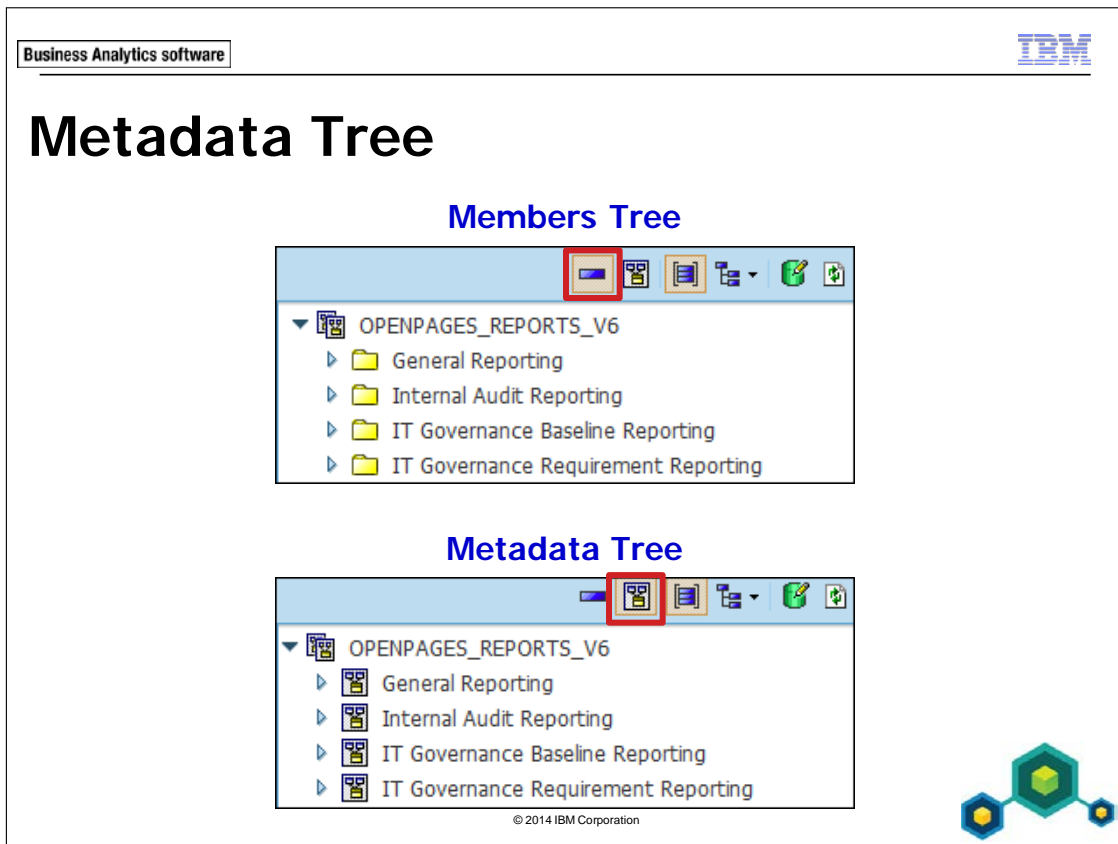


There are two ways to open the Workspace Advanced application:

- Cognos Connection home page: Click **Author business reports** to start the application.
- GRC Platform reporting menu: If you have the proper permissions, you will see this option in the reporting menu.

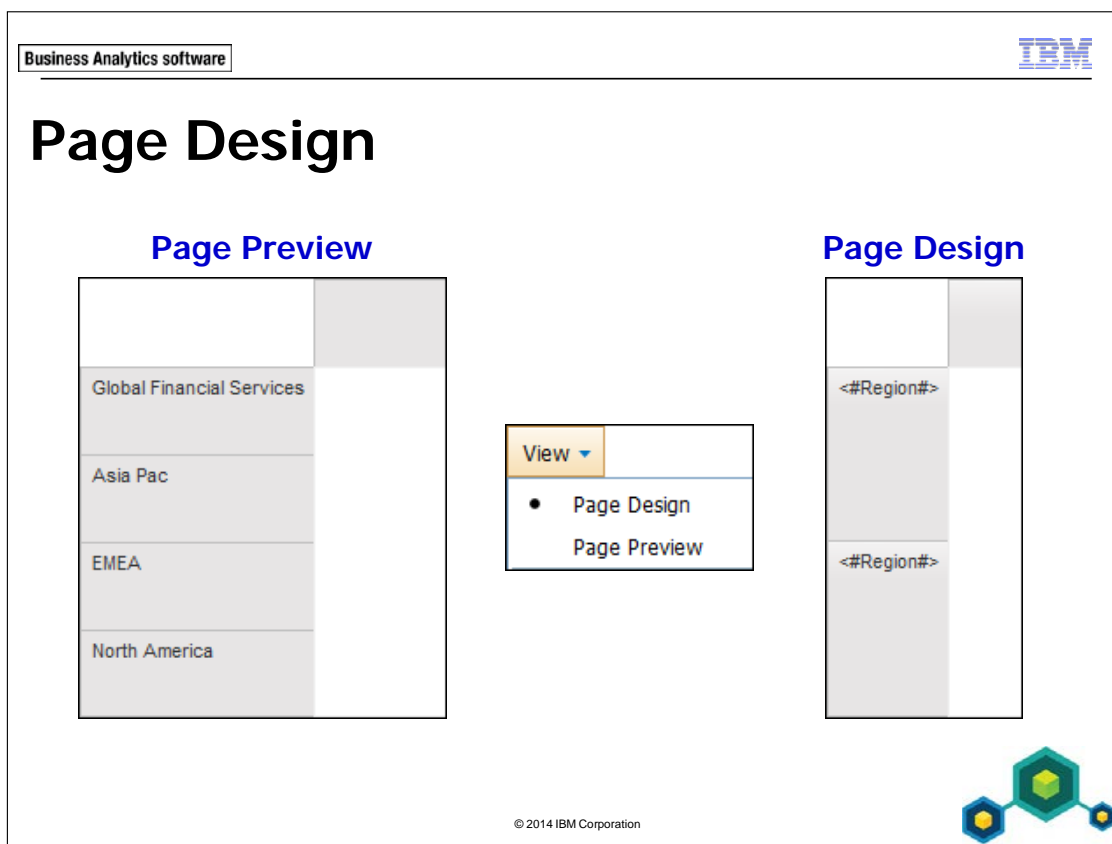


The correct package to select is **OPENPAGES_REPORTS_V6**. If you have other packages from which to choose, it could be because your GRC Platform was upgraded from an older version. Only the OPENPAGES_REPORTS_V6 package will allow you to use the new features and functionality available in IBM Cognos v10.2 and IBM OpenPages v7.0.



By default, Workspace Advanced displays the **Members Tree** in the Source pane. Best practice is to use the **Metadata Tree** in the Source pane.

NOTE: This example is based upon the U.S. English locale because Workspace Advanced was opened by a user whose locale is set to U.S. English.



By default, Workspace Advanced populates data when items are dragged and dropped into the report container. This is referred to as **Page Preview**. If you are working with a large set of GRC Platform data, this can cause significant delays when authoring reports.

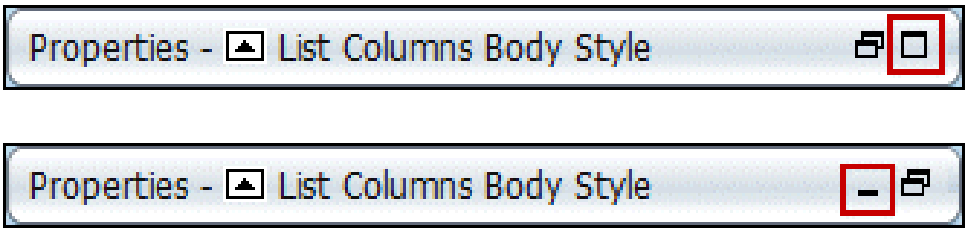
Best practice is to set the **Page Design** option in the **View** menu. Now metadata labels are displayed with no delays. Once you have the report container populated, you can run the report to view the report in Cognos Viewer.

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Properties Pane

- The **Properties** pane is used to format selected objects in the report work area.
- You will need to maximize and minimize the properties pane frequently.



The image shows two screenshots of the 'Properties - List Columns Body Style' pane. In the top screenshot, the maximize button (represented by a square icon) is highlighted with a red box. In the bottom screenshot, the minimize button (represented by a horizontal line icon) is highlighted with a red box.

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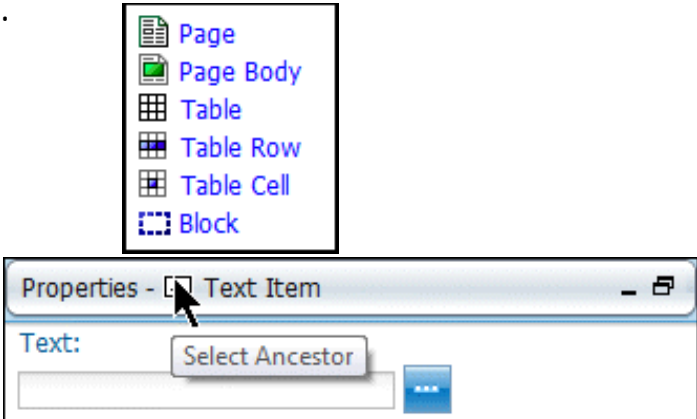
The properties pane is a very important formatting tool in Workspace Advanced and Report Studio. You will use it often.

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Ancestor Selector

- The **Ancestor Selector** is in the title bar of the properties pane.
- It lets you select the parent object of the selected object.

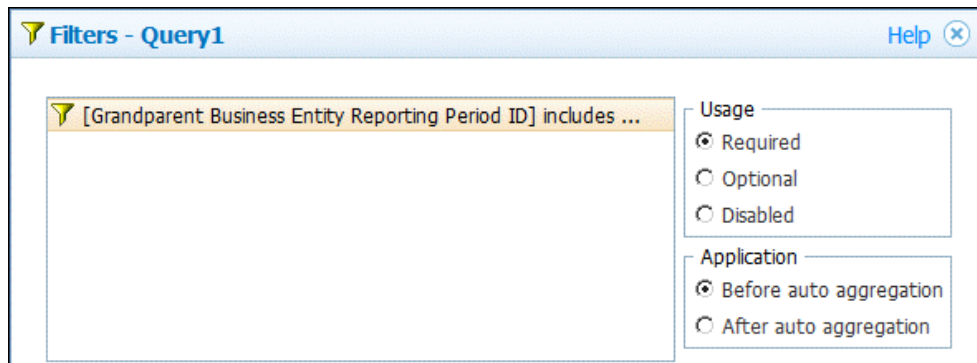


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The ancestor selector gives you the ability to select objects that you cannot click on in the work area. You will use the ancestor selector frequently in Workspace Advanced and Report Studio.

Filters

- Many times you will need to filter on query items that will not be displayed, for example a Reporting Period ID query item.



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To filter on these components you must first add them to the report container and then cut them. This leaves the query item in the query but does not display it in the report output.

After cutting the query item, you will **Edit Filters** to create the required filters.

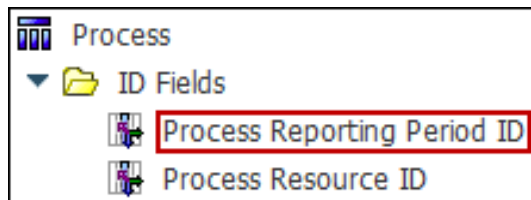
Standard GRC Platform Filters

- There are some filters that are frequently used in GRC Platform reports:
 - Reporting Period,
 - Starting Entity Location,
 - Exclude Null.



Reporting Period Filter

- Every GRC Platform report should have a reporting period filter to improve the performance in producing the report output.
- Every query subject in the generated framework has a reporting period ID query item that is used to create this filter.

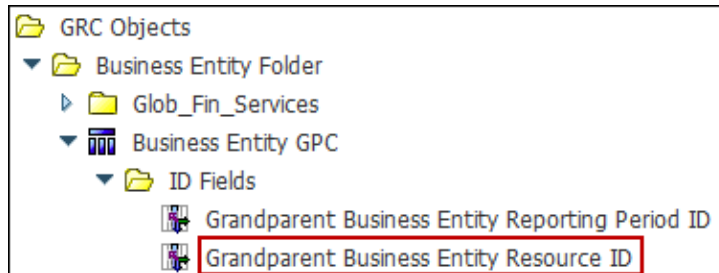


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Starting Entity Location

- The business entity is the primary way to scope the majority of GRC Platform reports.
- A best practice is to have the user specify a grandparent entity (GEN) and then have the report display child entities (CEN).



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Exclude Null

- Nearly every GRC Platform report will have one **Exclude Null** filter.

 [Grandparent Business Entity Reporting Period ID] includes ...

 [Grandparent Business Entity Location] includes ('/Global F...

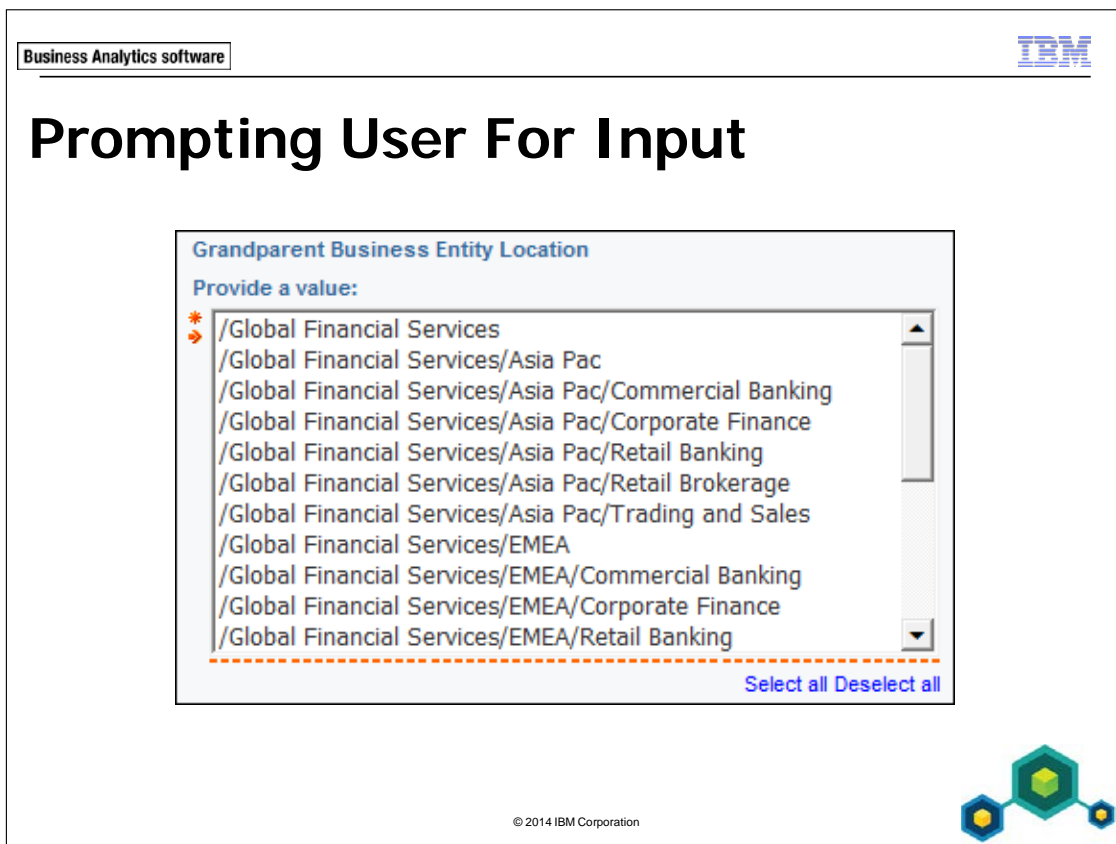
 [Process Name] excludes Null



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Typically a report is focused on one object type, for example a Process Summary report.

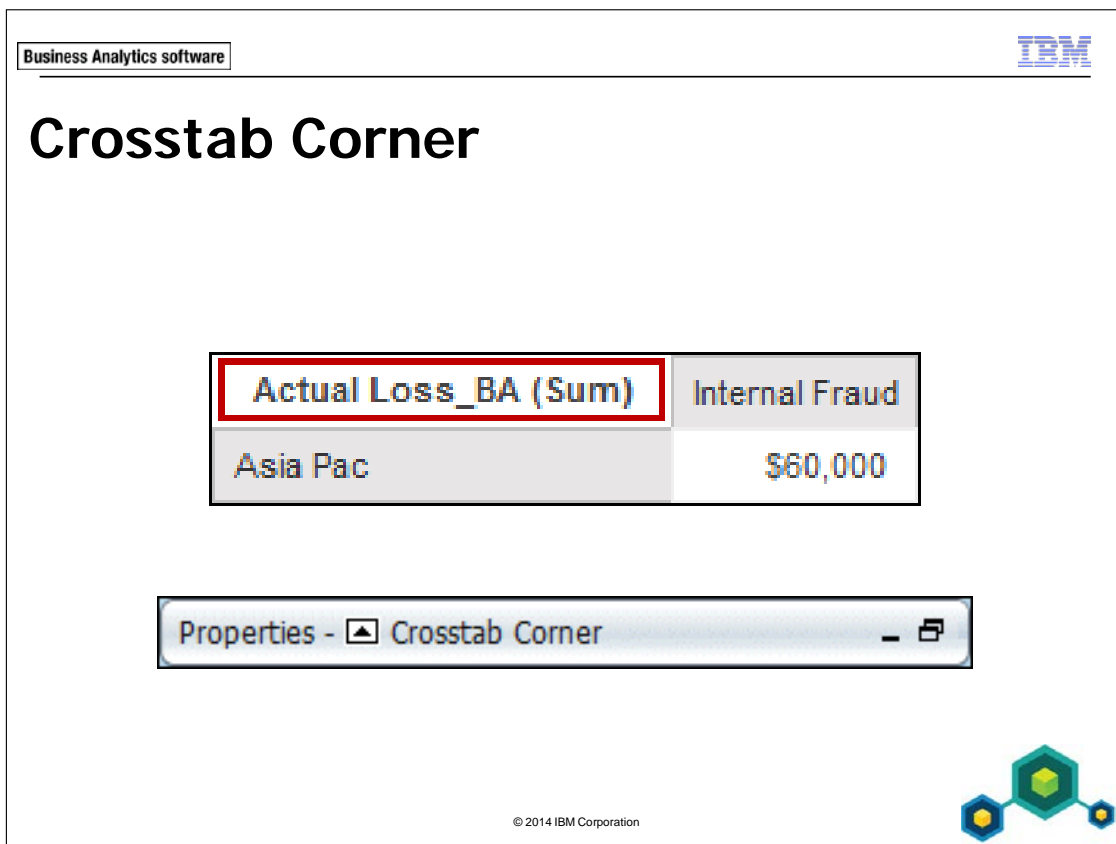
- If a row of data in the report result set does not contain process data, then that row should be removed.
- The exclude null filter is used to remove such rows.



Instead of filtering on specific values, you can configure the report to prompt the user for the values they want to see in the resulting report. Workspace Advanced uses only the default Cognos prompts. Report Studio is much more flexible and a sophisticated prompt page can be created.


Prompts can be required or optional. The user will not be able run the report until all required prompts have a selection made. Any prompt with a red asterisk, as in this example, is required.

If the user selects nothing in an optional prompt, there will be no filtering on that option.




The **Crosstab Corner** is the cell at the intersection of the left and top edge headers, in the top left corner, of the crosstab container. When selected, the ancestor selector in the properties pane title bar will display **Crosstab Corner**. By default, the name of the data item in the measures section is displayed.

When working on demonstrations you will frequently be asked to select the crosstab corner for purposes of formatting.

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Crosstab Nested Edges


	<#Control Operating Effectiveness#>		Summary
	<#Control Classification#>	Summary	
<#children(Global Financial Services)#>	<#1234#>	<#1234#>	<#1234#>
<#Global Financial Services#>	<#1234#>	<#1234#>	<#1234#>



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Top and left edges of the crosstab container can hold multiple dimensions, resulting in finer granularity of the data presented. In the top edge of this example, Operating Effectiveness is the top dimension and underneath it is the Classification dimension. When the report is run, each Operating Effectiveness option will be sub-divided by all of the Classification options.


When summaries are added to a crosstab containing nested edges, each nested layer gets a summary, rolling up to the final summary. In this example, each Operating Effectiveness option will have a summary of all of the Classification options, rolling up to the final summary on the right.

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DIM Entities

Location	Corporate	Region	LOB
/Global Financial Services	Global Financial Services	Global Financial Services	Global Financial Services
/Global Financial Services/Asia Pac	Global Financial Services	Asia Pac	Asia Pac
/Global Financial Services/Asia Pac/Commercial Banking	Global Financial Services	Asia Pac	Commercial Banking
/Global Financial Services/Asia Pac/Corporate Finance	Global Financial Services	Asia Pac	Corporate Finance
/Global Financial Services/Asia Pac/Retail Banking	Global Financial Services	Asia Pac	Retail Banking
/Global Financial Services/Asia Pac/Retail Brokerage	Global Financial Services	Asia Pac	Retail Brokerage
/Global Financial Services/Asia Pac/Trading and Sales	Global Financial Services	Asia Pac	Trading and Sales
/Global Financial Services/EMEA	Global Financial Services	EMEA	EMEA
/Global Financial Services/EMEA/Commercial Banking	Global Financial Services	EMEA	Commercial Banking
/Global Financial Services/EMEA/Corporate Finance	Global Financial Services	EMEA	Corporate Finance
/Global Financial Services/EMEA/Retail Banking	Global Financial Services	EMEA	Retail Banking
/Global Financial Services/EMEA/Retail Brokerage	Global Financial Services	EMEA	Retail Brokerage
/Global Financial Services/EMEA/Trading and Sales	Global Financial Services	EMEA	Trading and Sales

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When using the _DIM namespaces, you will normally use an entity dimension that has been configured by the GRC Platform administrator. The administrator can create multiple entity dimensions to aide in creating GRC Platform reports.

In this example, the entity dimension consists of three entity levels:

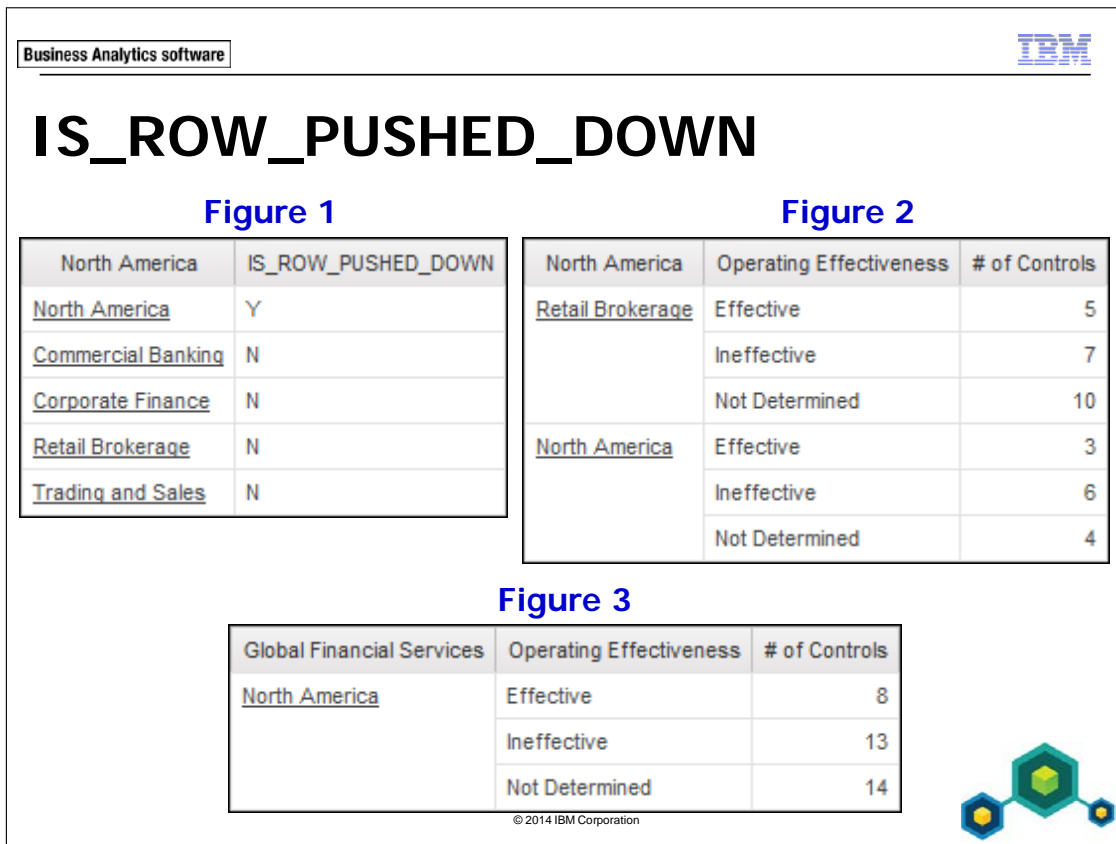
- Corporate (level 1),
- Region (level 2),
- LOB (level 3).

Each entity dimension breaks out a level of the location, or full path, for a given entity.

In this example, compare the **Location** in each row to the corresponding entity dimensions.


- The **Corporate** dimension is the same because it is displaying the first level of the location,
- The **Region** displays the second level of the location,
- The **LOB** displays the third level of the location.

Notice that the first row shows information for the top-most entity level, **Global Financial Services**. **Region** and **LOB** display the same information as **Corporate**, which is the first level in the location. This is due to the fact that the GRC Platform generated reporting framework will "push down" data from the previous, higher, levels.




A data item that has been "pushed down" corresponds to data located at the previous level in the hierarchy. In Figure 1 you can see that **North America** was pushed down to this list of entities.


The dimensional model is designed so that each time you drill down to another level, the data you see adds up to the data from the previous level. In Figure 3 you can see there are a total of 35 controls that are directly under the /North America entity. When you drill down on **North America** (Figure 2) you see that 13 controls are directly associated to the /North America entity hierarchy and 22 are associated to the /North America/Retail Brokerage hierarchy. If the "pushed down" information is not displayed in Figure 2, the user could be confused as to why the total control count is different.

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Pushed Down Filtering


North America	CN_OPERATING_EFFECTIVENES	SOXCONTROL (COUNT)
<u>Retail Brokerage</u>	Effective	5
	Ineffective	7
	Not Determined	10

 Detail Filters

 [IS_ROW_PUSHED_DOWN]='N'

Properties

- ☐ CORPORATE
- ☐ CN_OPERATING_EFFECTIVENES
- ☐ SOXCONTROL (COUNT)
- ☒ IS_ROW_PUSHED_DOWN



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There will times when you do not want to see data "pushed down" from the previous level, as shown in this example. In those cases, add a detail filter using the IS_ROW_PUSHED_DOWN query item. You must also make the IS_ROW_PUSHED_DOWN data item part of the properties of the report container.

Summary

- At the end of this module, you should be able to:
 - identify key portions of the working environment
 - identify the metadata tree view
 - differentiate between page preview and design views
 - locate the ancestor selector
 - list key GRC Platform report filters
 - define crosstab nested edges

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Cognos Workspace Advanced Reports

IBM OpenPages: Report Authoring (v7.0)



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Objectives

- At the end of this module, you should be able to:
 - create reports using DEFAULT_REL
 - create reports using DEFAULT_DIM
 - create a list report
 - create a crosstab report
 - create a chart report
 - navigate the REL and DIM namespaces

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NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2)* (J2258) or the optional *IBM Cognos Workspace Advanced: Introduction (v10.2)* (B5283) you may struggle completing the demonstrations in this and subsequent modules. Allow extra time to complete each demonstration.

Demo 1

Simple Entity List

<u>Entity ID List</u>	
Entity ID	Location
1202	/Global Financial Services
1204	/Global Financial Services/Asia Pac
1206	/Global Financial Services/Asia Pac/Commercial Banking
1208	/Global Financial Services/Asia Pac/Corporate Finance
1210	/Global Financial Services/Asia Pac/Retail Banking
1212	/Global Financial Services/Asia Pac/Retail Brokerage
1214	/Global Financial Services/Asia Pac/Trading and Sales

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IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: Simple Entity List

Purpose:

Learn to navigate the metadata tree, create a simple list report, create a filter, view the report in various formats, and save the report.

Portal: <http://optrainvm:10108/openpages>

User/Password: **ORMadmin/ORMadmin**

Studio: **Workspace Advanced**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the list container.

Due to the simplicity of this report and the small size of the database being accessed, you will use the default **Page Preview** so you can experience working with this setting.

1. In the GRC Platform, open the **Reporting** menu and select **Cognos Workspace Advanced**.
2. Select the OPENPAGES_REPORTS_V6 package.
3. In Workspace Advanced, click **Create new**, click **List**, and then click **OK**.
4. Open the **View** menu and confirm that **Page Preview** is enabled.
5. In the **Source** tab of the content pane, ensure **View Metadata Tree** is selected.

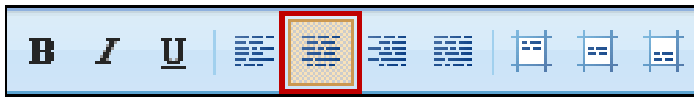


6. Click once in the work area to select it.

- Center the list container in the work area. There are two methods:

Method 1

- Click **Center** in the toolbar.



Method 2

- Maximize the **Properties** pane.
- Click **Center** under **Horizontal alignment**.



- Minimize the **Properties** pane.
- Click once in the list container and maximize the **Properties** pane.
 - In the ancestor selector, select **List**.
 - Change **Name** to **WA Entity ID List REL**.
 - Minimize the **Properties** pane.
 - Set the page title to **Entity ID List**.
 - Save the report as **05-Entity ID List**.

Task 2. Populate the list container.

- In the **Source** tab of the content pane, expand General Reporting>General Reporting (Relational) > GRC Objects > Business Entity Folder > Business Entity GPC > ID Fields.
- Add **Grandparent Business Entity Reporting Period ID** to the list container.
- Add **Grandparent Business Entity Resource ID** to the list container.
- Scroll down and add **Grandparent Business Entity Location** to the list container.

The results appear as follows:

Grandparent Business Entity Reporting Period ID	Grandparent Business Entity Resource ID	Grandparent Business Entity Location
-1	1202	/Global Financial Services

- Select the reporting period ID column and **Cut** it.

6. Select the entity location column and sort it ascending.

Task 3. Format the report.

1. Click the gray title cell of the resource ID column (List Column Title).
2. Maximize the properties pane:
 - **Data item label:** Entity ID.
3. Click the gray title cell of the entity location column (List Column Title):
 - **Data item label:** Location.

The results appear as follows:

Entity ID	Location▲
1202	/Global Financial Services


4. In the tool bar, open the **Filter** option and select **Edit Filters**.
5. Click **Add**.
6. Select the reporting period ID option in the drop down.
7. In the **Values** section, select **Specific values**:
 - select **-1** in Values pane,
 - click the right arrow,
 - click **OK**.

This filter is referred to as a **Current Reporting Period** filter. As a best practice, every IBM OpenPages GRC Platform report will contain a reporting period filter of some type to improve performance.

8. Click **OK**.
9. Run the report HTML, PDF and Excel 2007.
10. Save changes, close **IBM Cognos Viewer**, close the list report.

Results:

You created a simple list report using Workspace Advanced.


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Demo 2

Add More Detail

Process-Risk Summary

Location	Process Name	Process Domain List	Process In Scope List	Process Status	Risk Name
/Global Financial Services/EMEA/Retail Banking	RB-11	Operational,Technology	ORM	Awaiting Assessment	RB-11-Risk20189
					RB-11-Risk20190
					RB-11-Risk20191
					RB-11-Risk20192
					RB-11-Risk20193
					RB-11-Risk20194
	RB-12	Operational	ORM	Awaiting Assessment	RB-12-Risk20383
					RB-12-Risk21729
	RB-17	Operational	ORM	Awaiting Assessment	RB-17-Risk21423
					RB-17-Risk21424

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In this report you will continue using the General Reporting (Relational) namespace and add more content to the report created in Demo 1. You will see the relationships between Grandparent and Child entity data, learn to group columns and perform additional formatting.

Demo 2: Add More Detail

Purpose:

You will learn to navigate the metadata tree, create additional filters.

Task 1. Save a new version of the report.

1. In Workspace Advanced, open the **05-Entity ID List** created in Demo 1.
2. In the top left corner, open the **Report Actions** menu. 
3. Click **Save As**.
4. Save the report as **05-Process Risk Summary** in **My Folders**.

Task 2. Add child entity column.

1. From the **Business Entity GPC** query subject, add **Child Business Entity Location** to the list container and review the results.
2. **Cut** the **Entity ID** column.
3. Select the **Location** column.
4. In the tool bar, click **Group/Ungroup** and review the results.
5. **Cut** the **Location** column.
6. In the tool bar, open **Filters** and select **Edit Filters**.
7. Click **Add**.
8. Select the **Grandparent Business Entity Resource ID** and click **OK**.
9. In the **Values** section, select **Specific values**:
 - select **1204** in Values pane,
 - click the right arrow,
 - click **OK** twice.
10. Review the results.

11. In the tool bar, select **Edit Filters**:
 - Delete the entity resource ID filter,
 - Click **Add** and select the **Grandparent Business Entity Location** option,
 - Select /Global Financial Services/Asia Pac and click the right arrow,
 - Click **OK** twice.
12. Review the results: No change from the 1204 filter.
13. Select the entity location column and change the **Data item label** to **Location**.
14. Save the changes.

Task 3. Add process query items.

In this task you will add process query items to the end of the list container.

1. In the **General Reporting>General Reporting(Relational)>GRC Objects** folder in the source tab of the content pane, expand the **Process** query subject.
2. Add **Process Name** to the list container.
3. Expand **Process > Enumeration Fields** and each of the sub-folders.
4. Add the following to the list container, in order:
 - Process In Scope List,
 - Process Status,
 - Process Domain List.
5. Drag the **Process Domain List** column to the right of **Process Name**.
6. Group the **Location** column.
7. Review the results and save the changes.

Task 4. Remove rows with no process records.

In this task you will learn to create an Is Not Null filter to remove rows in which there are no process records. Using this filter is a best practice and will be used frequently in Workspace Advanced and Report Studio reports.

1. Select the process name column.
2. In the tool bar, open the filter menu and select **Exclude Null**.
3. Review the results and then select **Include Null** in the tool bar filter menu.
4. Review the results and then select **Edit Filters** in the tool bar.

5. Open the process name filter.
6. Note the **Condition** is set to **Show only the following values** while at the bottom **Include missing values (NULL)** is enabled.
7. Change the **Condition** to **Do NOT show the following values** and click OK.
8. Note that the process name filter is now **excludes Null**.
9. Click **OK** and review the results.
10. Save the changes.

Task 5. Add risk query items.

1. In the source tab of the content pane, expand the **Risk** query subject.
2. Add **Risk Name** to the list container.
3. Review the results.
4. Select **Edit Filters** in the tool bar.
5. Select the process name filter and under **Usage** select **Disabled**.
6. Add a new filter:


- **Custom based on data item:** Risk Name,
- **Condition:** Do NOT show the following values,
- **Include missing values (NULL):** enabled,
- click OK twice and review results.

To achieve the purpose of this report, you want to display all process records, even if they do not have risk records associated to them.

7. Edit the filters:
 - Select the risk name filter and disable it,
 - Select the process name filter and set **Usage** to **Required**.
8. Save the changes.

Task 6. Prompt the user to select an entity location.

In this task you will configure the report to prompt the user to select a starting entity location when the report is run. Best practice is to prompt the user for the grandparent entity location and when the report is run, display the child entity location.

1. Select **Edit Filters** in the tool bar.
2. Open the **[Location] includes ('/Global Financial Services/Asia Pac')** filter.
3. Enable **Prompt for values when report is run in viewer** and click **OK**.
4. Confirm that **Usage** is set to **Required** for this filter and click **OK**.
5. Run the report HTML and select /Global Financial Services.
6. Review more results by clicking the **Page Down** link.
7. In **IBM Cognos Viewer**, click the **Run Report** button. 
8. Select /Global Financial Services/EMEA, click **OK** and review results.
9. Run again and select /Global Financial Services/North America.
10. Run again and select /Global Financial Services/North America/Retail Brokerage.
11. Close Cognos Viewer. and save changes.

Task 7. Add optional prompts.

In this task you will add two optional prompts, one for process domain and one for process status. With optional prompts, if the user selects nothing, no filter will be applied and all values will be displayed in the report.

1. In the source tab of the content pane, navigate to Process > Enumeration Fields.
2. Add **Process Domain** to the list container and cut it.
3. Edit the filters and click **Add**.

4. Select **Process Domain**.
 - **Condition:** Show only the following values,
 - **Prompt for values when report is run in viewer:** Enabled,
 - **Include missing values (NULL):** Enabled,
 - Click **OK**,
 - Under **Usage** select **Optional** for this filter.
5. Using the same settings as above, add a **Process Status** filter.
6. Click **OK** and run the report HTML.
 - **Entity Location:** /Global Financial Services,
 - **Process Domain:** make no selections,
 - **Process Status:** Approved.
7. Run the report several times and select different combinations of required and optional filters.
8. Close the Viewer.
9. Save the changes, and close the report.

Results:

You saved a new version of a report, added a child entity, added a process query item, removed rows with no data, added risk query items, and configured prompts.

Demo 3

Simple Crosstab

Actual Losses by Risk Category							
	Internal Fraud	External Fraud	Employment Practices and Workplace Safety	Damage to Physical Assets	Business Disruption and System Failures	Execution, Delivery and Process Management	Summary
Asia Pac	\$60,000	\$74,693,233	\$2,817,162	\$80,000	\$10,000	\$16,600,000	\$94,260,395
EMEA		\$14,238,448		\$133,820		\$27,600,375	\$41,972,643
North America	\$60,000	\$1,400,000	\$3,000,000		\$10,000	\$100,000	\$4,570,000
Summary	\$120,000	\$90,331,681	\$5,817,162	\$213,820	\$20,000	\$44,300,375	\$140,803,038

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This demonstration will use the DEFAULT_DIM namespace in a crosstab. You will learn to enable drill-down and add summary information.

Demo 3: Simple Crosstab

Purpose:

Learn to navigate and use the DEFAULT_DIM namespace in creating a crosstab report.

Portal: <http://optrainvm:10108/openpages>

User/Password: **ORMadmin/ORMadmin**

Studio: **Workspace Advanced**


Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the crosstab container.

1. In the GRC Platform, open the **Reporting** menu and select **Workspace Advanced**.
2. Select the OPENPAGES_REPORTS_V6 package.
3. In Workspace Advanced, create a new crosstab report.
4. Open the **View** menu and confirm that **Page Preview** is enabled.
5. In the **Source** tab of the content pane, click **View Metadata Tree**.
6. Click the crosstab container and maximize the properties pane.
7. Confirm that **Crosstab** is selected in the ancestor selector and change the name to **WA Actual Losses Crosstab DIM**.
8. Click once in the work area and center it.
9. Set the page title to **Actual Losses by Risk Category**.
10. Save the report as **05-Actual Losses Crosstab** in **My Folders**.


Task 2. Populate the crosstab container.

1. In the source tab of the content pane, expand General Reporting > General Reporting (Dimensional) > Object Type Dimensions > Corporate_Hierarchy > Corporate_Hierarchy.
2. Drag **Region** to Rows.
3. Expand GRC Objects > Loss Event Folder > Loss Event (Enumeration and Dependent Picklist Dimensions) > Loss Event Risk Sub-Category (Dependent Picklist) > Loss Event Risk Sub-Category (Dependent Picklist).
4. Drag **Loss Event Risk Category** to Columns.

5. Expand Loss Impact Folder > Loss Impact (Facts) > Loss Impact Actual Loss_BA.
6. Drag **Actual Loss_BA (Sum)** into the measures section.
7. To suppress blank rows and columns, open the **Suppress** tool bar menu. 
8. Select **Suppress Rows and Columns**.
9. Run the report HTML and review results. View in PDF and Excel 2007 Format.
10. Close Excel and Cognos Viewer window.
11. Save changes.

Task 3. Format the crosstab report.

In this task you will hide the text in the top left corner of the crosstab container and add summary cells to the rows and columns. You will also format the numbers to display the currency sign for the GRC Platform's base currency (US Dollar).

1. Click the upper left corner of the crosstab container (**Crosstab Corner** in the properties pane ancestor selector).
2. Right-click the crosstab corner and select **Show Empty Cell**.
3. Select the white measure cells and open the **Summarize** tool bar menu. 
4. Select **Automatic Summary**.
5. Maximize the properties pane and in the ancestor selector, select **Crosstab Fact Cells**.
6. Open the **Data format** property:
 - **Format type:** Currency,
 - **Currency Display:** Currency symbol,
 - **No. of Decimal Places:** 0 (zero),
 - click **OK**.
7. Confirm all numbers in the measures section and the two Summary sections now display a US dollar sign and whole numbers (no cents).
8. Save the changes.
9. Open the **View** menu and enable **Page Design**.
10. Open the **Data** menu and select **Drill Options**.

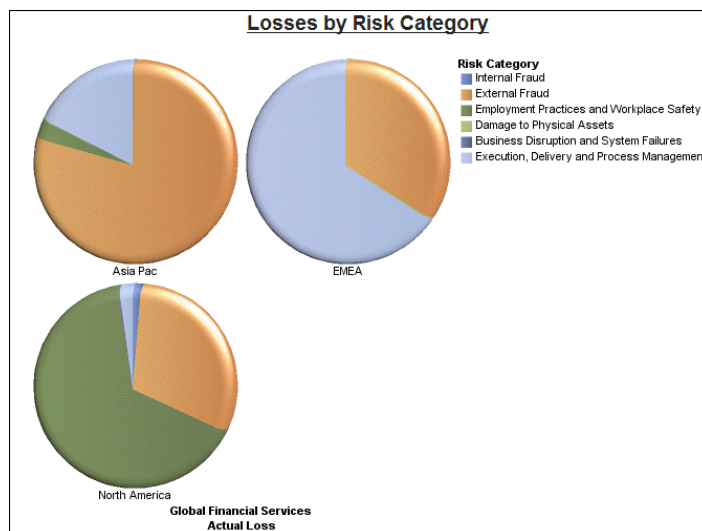
11. Select **Allow drill-up and drill-down**.
12. Clear **Allow this report to be a package-based drill-through source** and click **OK**.
13. Run the report HTML:
 - Click on **Asia Pac** and review the results,
 - Right-click on one of the entity rows and select **Drill Up**,
 - Review the results and then close Cognos Viewer.
14. Run the report PDF and Excel 2007.
15. Close Excel and Cognos Viewer.
16. Save the changes, and close Workspace Advanced.

Results:

You created a crosstab report in Workspace Advanced using the DEFAULT_DIM namespace.

Demo 4

Pie Chart



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Demo 4: Pie Chart.

Purpose:

Learn to create a chart using the **DEFAULT_DIM** namespace.

Portal: <http://optrainvm:10108/openpages>

User/Password: **ORMadmin/ORMadmin**

Studio: **Workspace Advanced**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the chart container.

1. In the GRC Platform, open the **Reporting** menu and select **Workspace Advanced**.
2. Select the **OPENPAGES_REPORTS_V6** package.
3. In **Workspace Advanced**, create a new chart report.
 - Select **Pie, Donut, Pie with 3-D Effects and Rounded Bevels**, and then click **Ok**.
4. Open the **View** menu and confirm that **Page Preview** is enabled.
5. In the **Source** tab of the content pane, click **View Metadata Tree**.
6. Click the chart container and maximize the properties pane.
7. Confirm that **Pie Chart** is selected in the ancestor selector and change the name to **WA Losses by Risk Category Pie DIM**.
8. Click once in the work area and center it.
9. Set the page title to **Losses by Risk Category**.
10. Save the report as **05-Losses by Risk Category Pie** in **My Folders**.

Task 2. Populate the chart container.

1. Click on the chart container (**Pie Chart** appears in the ancestor selector).
2. In the source tab of the content pane, navigate to **General Reporting > General Reporting (Dimensional) > Object Type Dimensions > Corporate Hierarchy > Corporate_Hierarchy**.
3. Drag **Region** into the **Categories (pies)** field.

4. Navigate to **General Reporting > General Reporting (Dimensional) > GRC Objects > Loss Event Folder > Loss Event (Enumeration and Dependent Picklist Dimensions) > Loss Event Risk Sub-Category (Dependent Picklist)> Loss Event Risk Sub-Category (Dependent Picklist)**.
5. Drag **Loss Event Risk Category** into the **Series (pie slices)** field.
6. Navigate to **General Reporting > General Reporting (Dimensional) > GRC Objects > Loss Impact Folder > Loss Impact (Facts) > Loss Impact Actual Loss_BA**.
7. Drag **Actual Loss_BA (Sum)** (in Loss Impact Actual Loss_BA folder) into the **Default measure** field.
8. Open the **Suppress** tool bar menu and select **Suppress Series and Categories**.
9. Save the changes.

Task 3. Format the chart report.

1. Maximize the properties pane.
2. Click on the chart container.
3. Click in the default measure field (**Default Measure** appears in the ancestor selector):
 - **Data item label:** Actual Loss,
 - note the changes to the report.
4. Click in the series field and make sure **Pie Slices** is selected in the ancestor selector:
 - **Data item label:** Risk Category,
 - note the changes to the report.
5. In the **Data** menu, select **Drill Options**:
 - enable drill-up and drill-down,
 - disable drill-through.

6. Under the top-right pie, right-click **EMEA**, select **Explore** and then **Drill Up**.
7. Click the **Categories** field and in the Properties pane ancestor selector, select **Category**:
 - **Data item label**: Corporate Hierarchy,
 - note the changes to the report.
8. Run the report HTML:
 - Under Risk Category click legend item **Execution, Delivery and Process Management**,
 - right-click any legend item and select **Drill Up**,
 - click on **Global Financial Services** under the pie,
 - click on **Asia Pac** under one of the pies,
 - right-click on **Asia Pac** and select **Drill Up**,
 - right-click on **Global Financial Services** and select **Drill Up**.
9. Close Cognos Viewer.
10. Hold down the shift key and drag the bottom right corner of the chart container to proportionally expand the container.
11. Save changes.

Results:

You created a chart report in Workspace Advanced using the DEFAULT_DIM namespace.

Demo 5

Nested Edge Crosstab

	Effective				Ineffective			
	Key Control Activity	Standard Control Activity	Not Determined	Summary	Key Control Activity	Standard Control Activity	Not Determined	Summary
Asia Pac	4	4	5	13	1	1	3	5
EMEA	2	1	4	7	1	2	3	6
North America	2	1	2	5	2	2	3	7
Global Financial Services	8	6	11	25	4	5	9	18

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Demo 5: Nested Edge Crosstab.

Purpose:

You will reinforce skills learned working with Workspace Advanced and the DEFAULT_DIM namespace. You will also learn to nest crosstab edges to make a richer report.

Portal: <http://optrainvm:10108/openpages>

User/Password: **ORMadmin/ORMadmin**

Studio: **Workspace Advanced**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the crosstab container.

1. In the GRC Platform, open the **Reporting** menu and select **Workspace Advanced**.
2. Select the OPENPAGES_REPORTS_V6 package.
3. In Workspace Advanced, create a new crosstab report.
4. Open the **View** menu and confirm that **Page Preview** is enabled.
5. In the **Source** tab of the content pane, click **View Metadata Tree**.
6. Click the crosstab container and maximize the properties pane.
7. Confirm that **Crosstab** is selected in the ancestor selector and change the name to **WA Control Analysis Crosstab DIM**.
8. Click once in the work area and center it.
9. Set the page title to **Control Analysis**.
10. Save the report as **05-Control Analysis Crosstab** in **My Folders**.

Task 2. Populate the crosstab container.

1. In the source tab of the content pane, navigate to **General Reporting > General Reporting (Dimensional) > Object Type Dimensions > Corporate_Hierarchy > Corporate_Hierarchy**.
2. Drag **Region** into the Rows area.
3. Navigate to **General Reporting > General Reporting (Dimensional) > GRC Objects > Control Folder > Control (Enumeration and Dependent Picklist Dimensions) > Control Operating Effectiveness > Control Operating Effectiveness**:
 - Drag the **Control Operating Effectiveness** level into the Columns area.
4. Navigate to Control (Facts):
 - Drag **Control (Count)** into the measures section.
5. Open the **Suppress** tool bar menu and select **Suppress Rows and Columns**.
6. Save the changes.

Task 3. Alter the crosstab report.

In this task you will try a variety of changes to the crosstab container before settling on a solution.

1. Right-click the Crosstab Corner and select Show Empty Cell.
2. Navigate to the enumerations folder in **Control Folder** in GRC Objects:
 - Drag the **Control Classification > Control Classification > Control Classification** level to the right side of the **Columns** area and review the changes,
 - Note the two sections in the top edge. On the left is operating effectiveness and on the right is classification.
3. Click on one of the classification column headers and drag it above operating effectiveness columns to create a nested edge:
 - now you will see each classification option sub-divided by the operating effectiveness options.

4. Click on one of the classification column headers and drag it below operating effectiveness within the top edge to create a nested edge:
 - now you will see each operating effectiveness option sub-divided by the classification options,
 - this is how you will leave the report.

The results appear as follows:

	Effective		
	Key Control Activity	Standard Control Activity	Not Determined
Asia Pac	4	4	5
EMEA	2	1	4
North America	2	1	2

5. Save the changes.
6. From the **Data** menu, select **Drill Options**:
 - enable drill-up and -down,
 - disable drill-through.
7. Run the report HTML and drill up and down on Asia Pac entity.
8. Save changes.

Task 4. Add summaries.

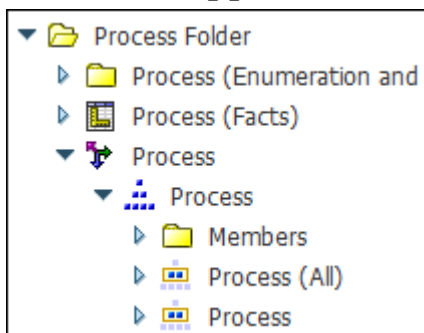
1. Click any cell in measures section (**Crosstab Intersection** in the ancestor selector).
2. Open the **Summarize** tool bar menu and select **Automatic Summary**.
3. Run the report HTML, test and validate.
4. Save changes.

Task 5. More nesting.

In this task you will add process record names to the entity rows to get further granularity in the analysis. You will not save these changes.

1. Navigate to the **Process** level in the Process Folder.


The results appear as follows:



2. Drag the Process level to the right of the Region dimension in the left edge of the crosstab container.

The results appear as follows:

		Effective			
		Key Control Activity	Standard Control Activity	Not Determined	Summary
Asia Pac	RB-02	1		1	2
	CB-01	3	3	4	10
	RB-01				
	RB-07				

3. Run the report HTML and test drill up and down on Asia Pac. Close the HTML report when testing is complete.
4. In the **Edit** menu, click **Undo** to remove the Process record names from the left edge or from the tool bar click the following icon. 
5. Drag the Process level beneath the bottom summary row in crosstab container.

You will now see the original entity effectiveness data in the top portion of the crosstab and below the summary row you will see all of the process record names listed in the left edge.

6. Run the report HTML and test drill up and down on Asia Pac. Drill all the way up to **Global Financial Services**. Close the HTML report when testing is complete.
7. Click **Undo**.
8. Open the **View** menu and select **Page Design**.
9. Review the new representation of the report you created.
10. Do NOT save changes.
11. Exit Workspace Advanced, log off, and close all browser windows.

Results:

You created a crosstab report with nested edges, drill-up and -down, and summaries.

Summary

- At the end of this module, you should be able to:
 - create reports using DEFAULT_REL
 - create reports using DEFAULT_DIM
 - create a list report
 - create a crosstab report
 - create a chart report
 - navigate the REL and DIM namespaces

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IMPORTANT

Solutions for the demos in this module can be found in:
Public Folders > 1O202 Solution Reports > Module 05.



Using Cognos Report Studio

IBM OpenPages: Report Authoring (v7.0)

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Objectives

- At the end of this module, you should be able to:
 - identify key items in the Report Studio window
 - explain how to view tabular data
 - define standard filters
 - understand the use of entity data groups
 - explain the concept of a starting entity
 - identify pushed down data

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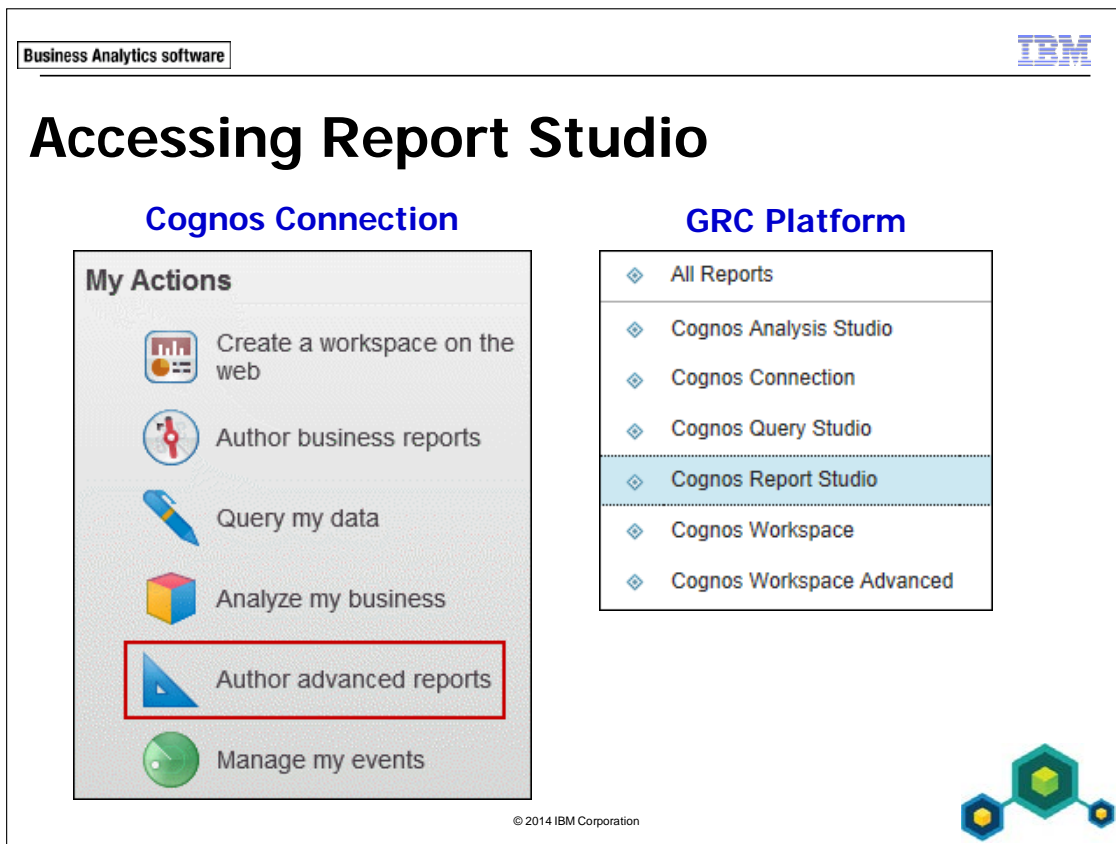
NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2)* (J2258) you may struggle completing the demonstrations in this module. Allow extra time to complete each demonstration.

Cognos Report Studio

- The primary application used to create IBM OpenPages GRC Platform reports.
- Features and functionality similar to Workspace Advanced:
 - advanced functionality, filtering and flexibility,
 - access to the report query,
 - ability to create drill-through reports,
 - can create unions, joins and other query operations,
 - ability to create sophisticated prompt pages,
 - conditional formatting.

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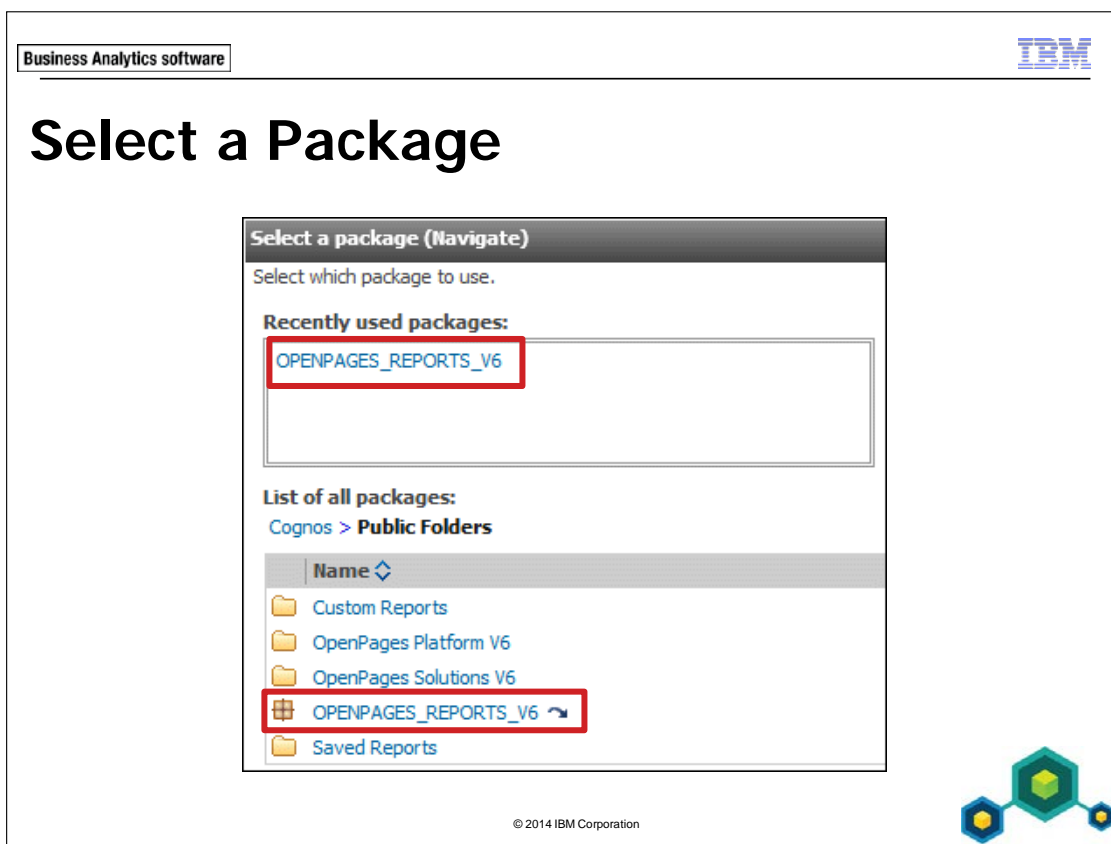




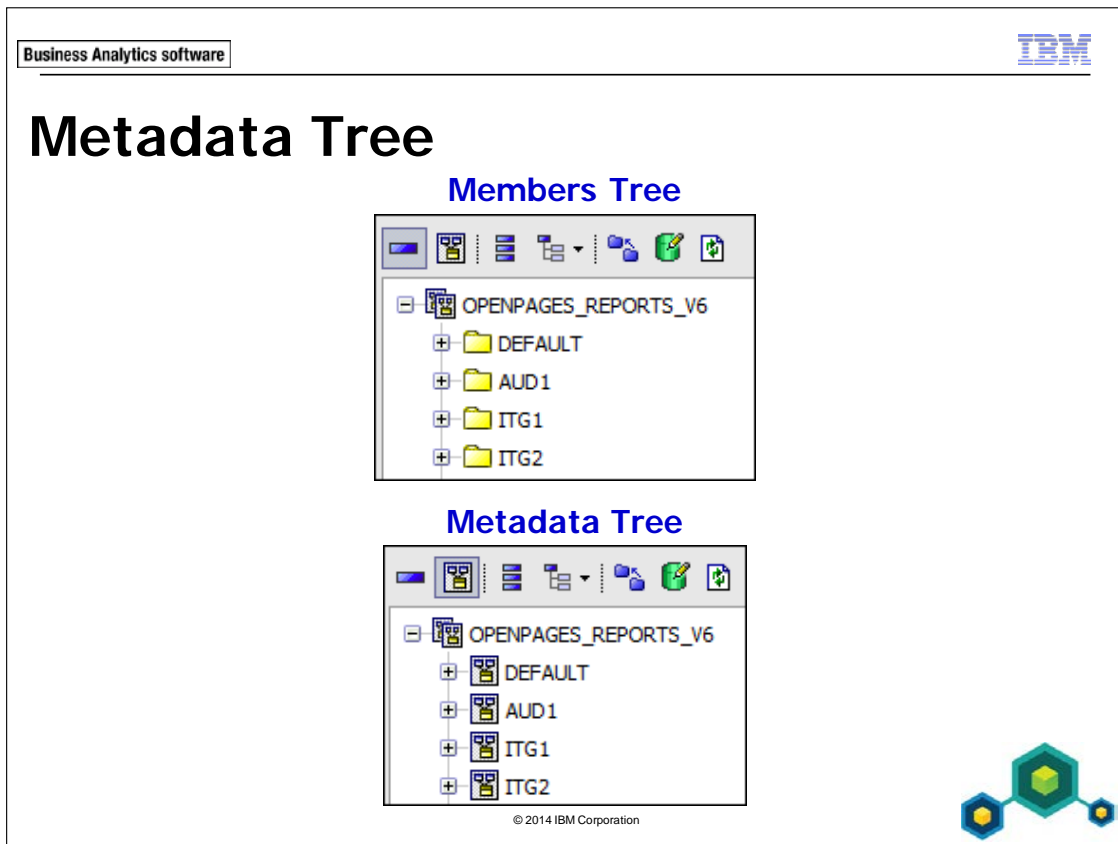
There are two ways to open the Report Studio application:

- Cognos Connection home page: Click **Author business reports** to start the application.
- GRC Platform reporting menu: If you have the proper permissions, you will see this option in the reporting menu.

Best Practice: Access the Cognos Connection home page using the IBM Cognos URL, not from the IBM OpenPages UI.



The correct package to select is **OPENPAGES_REPORTS_V6**. If you have other packages from which to choose, it could be because your GRC Platform was upgraded from an older version. Only the OPENPAGES_REPORTS_V6 package will allow you to use the new features and functionality available in IBM Cognos v10.2 and IBM OpenPages v7.0.

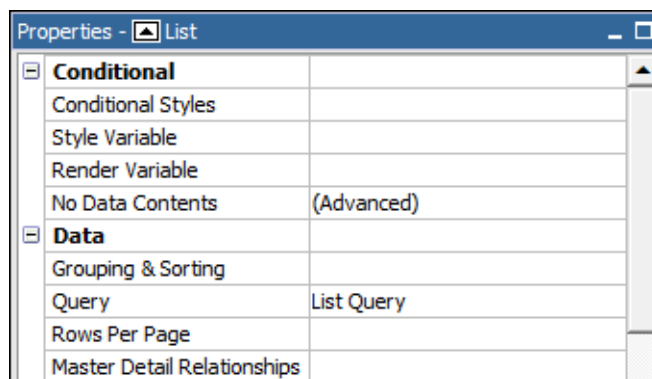


By default, Report Studio displays the **Metadata Tree** in the Source pane. Best practice is to use the **Metadata Tree** in the Source pane.

NOTE: This example is based upon the Report Design Language because Report Studio was opened by a user whose locale is set to English (Canada). This, too, is a best practice.

Properties Pane

- The **Properties** pane is used to format selected objects in the report work area.
- It is a very important formatting tool and you will use it often in the demonstrations.



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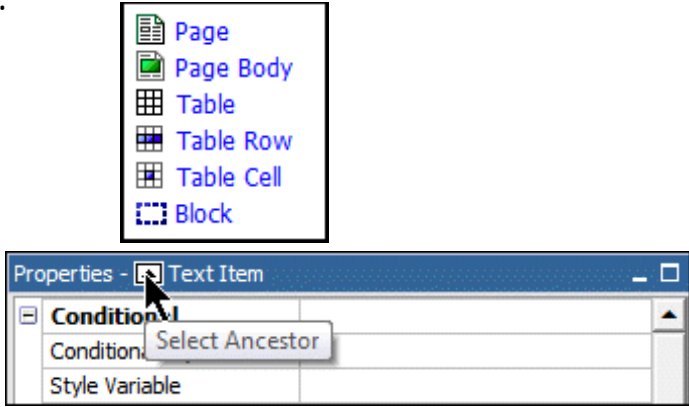


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Ancestor Selector

- The **Ancestor Selector** is in the title bar of the properties pane.
- It lets you select the parent object of the selected object.



The image shows a screenshot of the Cognos Report Studio interface. At the top, there is a header bar with 'Business Analytics software' on the left and the 'IBM' logo on the right. Below the header, the title 'Ancestor Selector' is displayed in a large, bold font. Underneath the title, there are two bullet points: '▪ The **Ancestor Selector** is in the title bar of the properties pane.' and '▪ It lets you select the parent object of the selected object.' Below the text, there is a screenshot of the 'Properties - Text Item' window. The window has a title bar that says 'Properties - Text Item'. Inside the window, there is a list of properties: 'Condition 1', 'Condition', and 'Style Variable'. A mouse cursor is hovering over the 'Condition 1' property, and a small menu is visible next to it with the option 'Select Ancestor'. Above this menu, there is a separate list of objects that can be selected: 'Page', 'Page Body', 'Table', 'Table Row', 'Table Cell', and 'Block'. Each item in this list has a small icon next to it. In the bottom right corner of the screenshot, there is a small logo consisting of three green hexagons arranged in a triangle. At the bottom center of the screenshot, there is a small copyright notice: '© 2014 IBM Corporation'.


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The ancestor selector gives you the ability to select objects that you cannot click on in the work area. You will use the ancestor selector frequently in Report Studio.




The **Crosstab Corner** is the cell at the intersection of the left and top edge headers, in the top left corner, of the crosstab container. When selected, the ancestor selector in the properties pane title bar will display **Crosstab Corner**. By default, the name of the data item in the measures section is displayed.

When working on demonstrations you will frequently be asked to select the crosstab corner for purposes of formatting.

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Crosstab Nested Edges

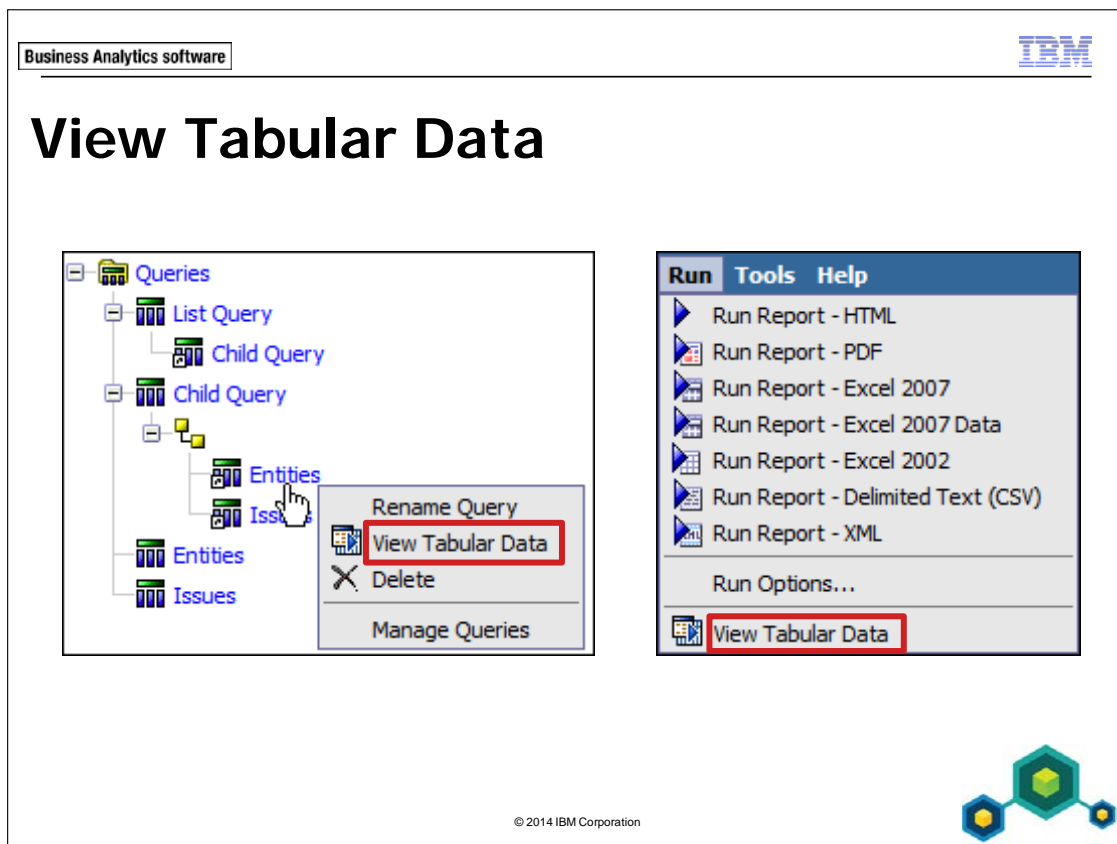
	<#CN_OPERATING_EFFECTIVENES#>	Summary	
	<#CN_CLASSIFICATION#>	Summary	
<#CEN_NAME00#>	<#1234#>	<#1234#>	<#1234#>
Summary	<#1234#>	<#1234#>	<#1234#>



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Top and left edges of the crosstab container can hold multiple dimensions, resulting in finer granularity of the data presented. In the top edge of this example, Operating Effectiveness is the top dimension and underneath it is the Classification dimension. When the report is run, each Operating Effectiveness option will be sub-divided by all of the Classification options.

When summaries are added to a crosstab containing nested edges, each nested layer gets a summary, rolling up to the final summary. In this example, each Operating Effectiveness option will have a summary of all of the Classification options, rolling up to the final summary on the right.



While creating, or troubleshooting, reports you may need to validate data being returned by a report query. You can do this by using **View Tabular Data** which will display data for a selected query.

There are two methods to view tabular data.

METHOD 1

Open **Query Explorer**, right-click the desired query and select **View Tabular Data**.

METHOD 2

Navigate to the desired query and in the **Run** menu select **View Tabular Data**.

You will use this procedure frequently when performing the demonstrations in this course.

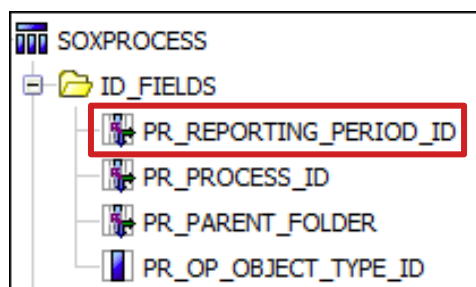
Standard GRC Platform Filters

- There are some filters that are frequently used in GRC Platform reports:
 - Reporting Period,
 - Starting Entity Location,
 - Exclude Null.



Reporting Period Filter

- Every GRC Platform report should have a reporting period filter to improve the performance in producing the report output.
- Every query subject in the generated framework has a reporting period ID query item that is used to create this filter.



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Is Not Null

- Nearly every GRC Platform report will have one **Is Not Null** filter.

 [GEN_REPORTING_PERIOD_ID]=-1
 [GEN_ENTITY_ID]=1204
 [PR_PROCESS_ID] is not null



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Typically a report is focused on one object type, for example a Process Summary report.

- If a row of data in the report result set does not contain process data, then that row should be removed.
- The Is Not Null filter is used to remove such rows.

SOXBusEntity Data Groups

- When reporting on your GRC Platform data, everything starts with the SOXBusEntity because it sits at the top of the hierarchy.
- The SOXBUSENTITY_GPC query subject contains three SQL 'data groups' that form an abstraction of your Business Entity data:
 - GEN_
 - PEN_
 - CEN_

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A business entity is a hierarchical object. Business entities can have parents and children which are themselves business entities. Any level of the business entity structure can have other objects associated to them such as processes and risk assessments.

By using business entities in reports you can perform the following:

- scope and filter report data
- determine how data instances are counted
- determine how numbers are displayed
- individual or rollup numbers for a selected business entity

GEN_

- GEN-Grandparent Entity data group.
- Definition:
 - can have children but no parents
 - used for scoping to put the report in context
 - used for filtering to reduce the rows of data






	GEN_CHECKED_IN_BY
	GEN_COMPLIANCE_OWNER
	GEN_CREATION_DATE
	GEN_CREATOR
	GEN_DESCRIPTION

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PEN_

- PEN-Parent Entity data group.
- Definition:
 - can have parents, can have children and can be children
 - limited / specialized usage in reports
 - 0 or 1 leaf levels below the associated GEN entity level






	PEN_CHECKED_IN_BY
	PEN_COMPLIANCE_OWNER
	PEN_CREATION_DATE
	PEN_CREATOR
	PEN_DESCRIPTION

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CEN_

- CEN-Child Entity data group.
- Definition:
 - can have parents but no children
 - used to display entity information in reports
 - 0 through N leaf levels below the associated PEN entity level

	CEN_CHECKED_IN_BY
	CEN_COMPLIANCE_OWNER
	CEN_CREATION_DATE
	CEN_CREATOR
	CEN_DESCRIPTION

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Demo 1

Recursive Entities in Reports

GEN_FULL_PATH	G2P Distance	PEN_FULL_PATH	P2C Distance	CEN_FULL_PATH
/Global Financial Services	0	/Global Financial Services	0	/Global Financial Services
/Global Financial Services	1	/Global Financial Services/Asia Pac	0	/Global Financial Services/Asia Pac
/Global Financial Services	1	/Global Financial Services/Asia Pac	1	/Global Financial Services/Asia Pac/Commercial Banking
/Global Financial Services	1	/Global Financial Services/Asia Pac	1	/Global Financial Services/Asia Pac/Corporate Finance
/Global Financial Services	1	/Global Financial Services/Asia Pac	1	/Global Financial Services/Asia Pac/Retail Banking

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IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: Recursive Entities in Reports

Purpose:

You will investigate using and manipulating the recursive entity structure of the IBM OpenPages GRC Platform in reports. You will use the **DEFAULT_REL** namespace for this demonstration.

Portal: **http://optrainvm/ibmcognos**

User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the report page.

1. In Report Studio, create a new list report.
2. Select the list container, in the **Ancestor Selector** select **List**.
3. Change the **Name** property to **RS Recursive Entities List REL**.
4. Select the report page work area and confirm the ancestor selector displays **Page Body**.
5. In the tool bar, click **Center**.
6. Double-click the text item in the report page header.
7. Type **Recursive Entities** and click **OK**.

Task 2. Populate the list container.

1. In the content pane, select the **Source** tab and expand **DEFAULT_REL > GRC_OBJECTS > SOXBUENTITY_FOLDER > SOXBUENTITY_GPC > ID_FIELDS**.
2. Add the following query items to the list container in order:
 - **GEN_REPORTING_PERIOD_ID**,
 - **GEN_ENTITY_ID**,
 - **GEN_FULL_PATH**.
3. Right-click the reporting period ID column and select **Cut**.
4. Click on the full path column and in the tool bar open the **Sort** menu and select **Ascending**.

The results appear as follows:

GEN_ENTITY_ID	GEN_FULL_PATH▲
<GEN_ENTITY_ID>	<GEN_FULL_PATH>
<GEN_ENTITY_ID>	<GEN_FULL_PATH>
<GEN_ENTITY_ID>	<GEN_FULL_PATH>

5. In the tool bar, open the **Filters** menu and select **Edit Filters**.
6. Click **Add**, select **Advanced** and click **OK**.
7. In the **Available Components** pane click the **Data Items** tab.
8. Drag **GEN_REPORTING_PERIOD_ID** into the **Expression Definition** pane.
9. Place the cursor at the end of the expression and type **=-1**.

The results appear as follows:

[GEN_REPORTING_PERIOD_ID] = -1

10. Click **OK** twice to return to the list container.
11. Run the report HTML and review.
12. Close **IBM Cognos Viewer**
13. Save the report as **06-Recursive Entities List** in **My Folders**.
14. Run the report **PDF**.
15. Save a copy as **Entity ID List** to the desktop.
16. Close the PDF reader.

Task 3. Display GEN data group.

1. From the content pane Source tab, scroll down and add **GEN_NAME00** to the beginning of the list container.
2. Cut the **GEN_ENTITY_ID** column.
3. Point to **Query Explorer** to slide it open and select **Query1**.
4. In the **Properties** pane, change the **Name** property to **List Query**.
5. From the **Data Items** pane drag **GEN_ENTITY_ID** into the **Detail Filters** pane.
6. Set the expression equal to **1202**.
7. Run the report HTML. Notice that only one row is produced because you are filtering on entity ID 1202, which is the identifier for Global Financial Services.
8. Close Cognos Viewer.

Task 4. Display PEN data group.

1. To return to the list container, point to **Page Explorer** to slide it open and select **Page1** under **Report Pages**.
2. From the content pane Source tab, add **PEN_NAME00** to the right side of the list container.
3. Add **PEN_FULL_PATH** to the right side of the list container.
4. Sort **PEN_FULL_PATH** in ascending order.
5. Cut the **GEN_NAME00** and **GEN_FULL_PATH** columns.
6. Run the report HTML.

The results appear as follows:

PEN_NAME00	PEN_FULL_PATH
Global Financial Services	/Global Financial Services
Asia Pac	/Global Financial Services/Asia Pac
EMEA	/Global Financial Services/EMEA
North America	/Global Financial Services/North America

Notice that Global Financial Service appears in the list, even though it is a first level entity. This is due to the recursive nature of entities in the GRC Platform. The following should help clarify this concept.

7. Close Cognos Viewer and in the Source pane, scroll up and expand the **JOIN_FIELDS** folder.
8. Add **G2P_DISTANCE** to the end of the list container and run the report HTML.
 - **G2P**: Grandparent to Parent,
 - the distance is measured in steps from the declared GEN entity, in this case 1202 or Global Financial Services, to the displayed PEN entity
9. After reviewing, close Cognos Viewer.
10. In the tool bar, open the **Filters** menu and select **Edit Filters**.
11. Double-click the GEN_ENTITY_ID filter.
12. Set the expression equal to **1204** (/Global Financial Services/Asia Pac) and click **OK** twice to return to the list container.
13. Run the report HTML and review:

14. Now the entity **Asia Pac** has a G2P distance of zero. This is because you changed the starting GEN entity to 1204 (Asia Pac).
15. In addition, the entities the next step below Asia Pac are now displayed with a G2P distance of one.
16. Close Cognos Viewer and cut **G2P_DISTANCE**.
17. Navigate to the report's **List Query**.
18. Double-click the GEN_ENTITY_ID filter, set the expression equal to 1202 again and click **OK** twice.
19. From the **Data Items** pane, drag **G2P_DISTANCE** into the detail filters pane.
20. Set the expression equal to zero.
The results appear as follows:

[G2P_DISTANCE]=0

21. Run the report HTML and notice only one row of data is displayed.
22. Close Cognos Viewer and open the G2P_Distance filter.
23. Set the expression equal to one and run the report HTML.
24. Notice that only the next level entities are displayed because they are one step below the declared starting GEN entity of 1202 (/Global Financial Services).
25. Close Cognos Viewer.
26. Navigate to Page Explorer, Page 1, select **Edit Filters** from the tool bar filters menu and double-click the GEN_ENTITY_ID filter.
27. Set the expression equal to 1204 (/Global Financial Services/Asia Pac) and click **OK**.
28. Run the report HTML and review:
 - now the entities one level below /Global Financial Services/Asia Pac are displayed due to the filtering in use.
29. Close Cognos Viewer.

Task 5. Display CEN data group.

1. Return to Report Pages **Page1** and add the following to the end of the list container:
 - CEN_NAME00,
 - CEN_FULL_PATH.

2. Sort CEN_FULL_PATH in ascending order.
3. Cut the following from the list container:
 - PEN_NAME00,
 - PEN_FULL_PATH.
4. In the tool bar, open the **Filters** menu and select **Edit Filters**.
5. Select the G2P_DISTANCE filter and in the **Usage** pane select **Disabled**.
6. Change the value of the entity ID filter to 1202.
7. Click **OK** twice to return to the list container.
8. Run the report HTML. Notice that you get a list of all the business entities starting with Global Financial Services (1202).
9. Close Cognos Viewer, scroll up in the **Source** pane, and add **P2C_DISTANCE** to the end of the list container.
10. Run the report HTML and review:
 - **P2C**: Parent to Child.
11. Close Cognos Viewer.

Task 6. Reconfigure list container.

1. Cut all three columns from the list container.
2. In the content pane, select the **Data Items** tab.
3. Add the following to the list container:

GEN_FULL_PATH	G2P_DISTANCE	PEN_FULL_PATH	P2C_DISTANCE	CEN_FULL_PATH
<GEN_FULL_PATH>	<G2P_DISTANCE>	<PEN_FULL_PATH>	<P2C_DISTANCE>	<CEN_FULL_PATH>
<GEN_FULL_PATH>	<G2P_DISTANCE>	<PEN_FULL_PATH>	<P2C_DISTANCE>	<CEN_FULL_PATH>
<GEN_FULL_PATH>	<G2P_DISTANCE>	<PEN_FULL_PATH>	<P2C_DISTANCE>	<CEN_FULL_PATH>

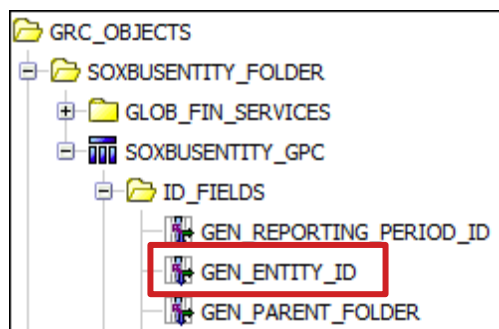
4. Run the report HTML and review.
5. Close Cognos Viewer and save changes.
6. Edit the filters and open the entity ID filter.
7. Set the expression equal to 1204 and run the report HTML.
8. Close Cognos View and do NOT save changes.

Results:

You worked with and investigated the use of the recursive entity structure in GRC Platform reports.

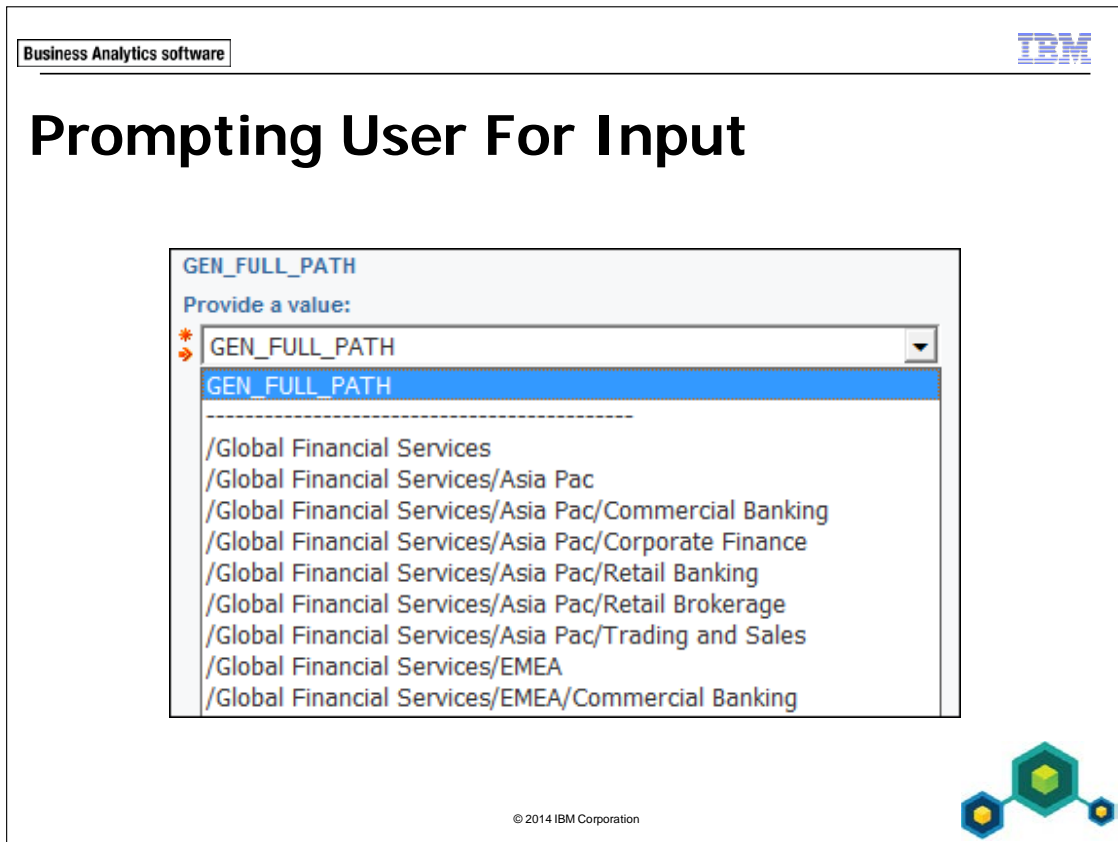
Starting Entity Location

- The business entity is the primary way to scope the majority of GRC Platform reports.
- A best practice is to have the user specify a grandparent entity (GEN) and then have the report display child entities (CEN).



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Instead of filtering on specific values, you can configure the report to prompt the user for the values they want to see in the resulting report. In this example, the default Cognos prompt is being used. Report Studio is much more flexible and a sophisticated prompt page can be created.

Prompts can be required or optional. The user will not be able run the report until all required prompts have a selection made. Any prompt with a red asterisk, as in this example, is required.

If the user selects nothing in an optional prompt, there will be no filtering on that option.

DIM Entities

Location	Corporate	Region	LOB
/Global Financial Services	Global Financial Services	Global Financial Services	Global Financial Services
/Global Financial Services/Asia Pac	Global Financial Services	Asia Pac	Asia Pac
/Global Financial Services/Asia Pac/Commercial Banking	Global Financial Services	Asia Pac	Commercial Banking
/Global Financial Services/Asia Pac/Corporate Finance	Global Financial Services	Asia Pac	Corporate Finance
/Global Financial Services/Asia Pac/Retail Banking	Global Financial Services	Asia Pac	Retail Banking
/Global Financial Services/Asia Pac/Retail Brokerage	Global Financial Services	Asia Pac	Retail Brokerage
/Global Financial Services/Asia Pac/Trading and Sales	Global Financial Services	Asia Pac	Trading and Sales
/Global Financial Services/EMEA	Global Financial Services	EMEA	EMEA
/Global Financial Services/EMEA/Commercial Banking	Global Financial Services	EMEA	Commercial Banking
/Global Financial Services/EMEA/Corporate Finance	Global Financial Services	EMEA	Corporate Finance
/Global Financial Services/EMEA/Retail Banking	Global Financial Services	EMEA	Retail Banking
/Global Financial Services/EMEA/Retail Brokerage	Global Financial Services	EMEA	Retail Brokerage
/Global Financial Services/EMEA/Trading and Sales	Global Financial Services	EMEA	Trading and Sales

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When using the _DIM namespaces, you will normally use an entity dimension that has been configured by the GRC Platform administrator. The administrator can create multiple entity dimensions to aide in creating GRC Platform reports.

In this example, the entity dimension consists of three entity levels:

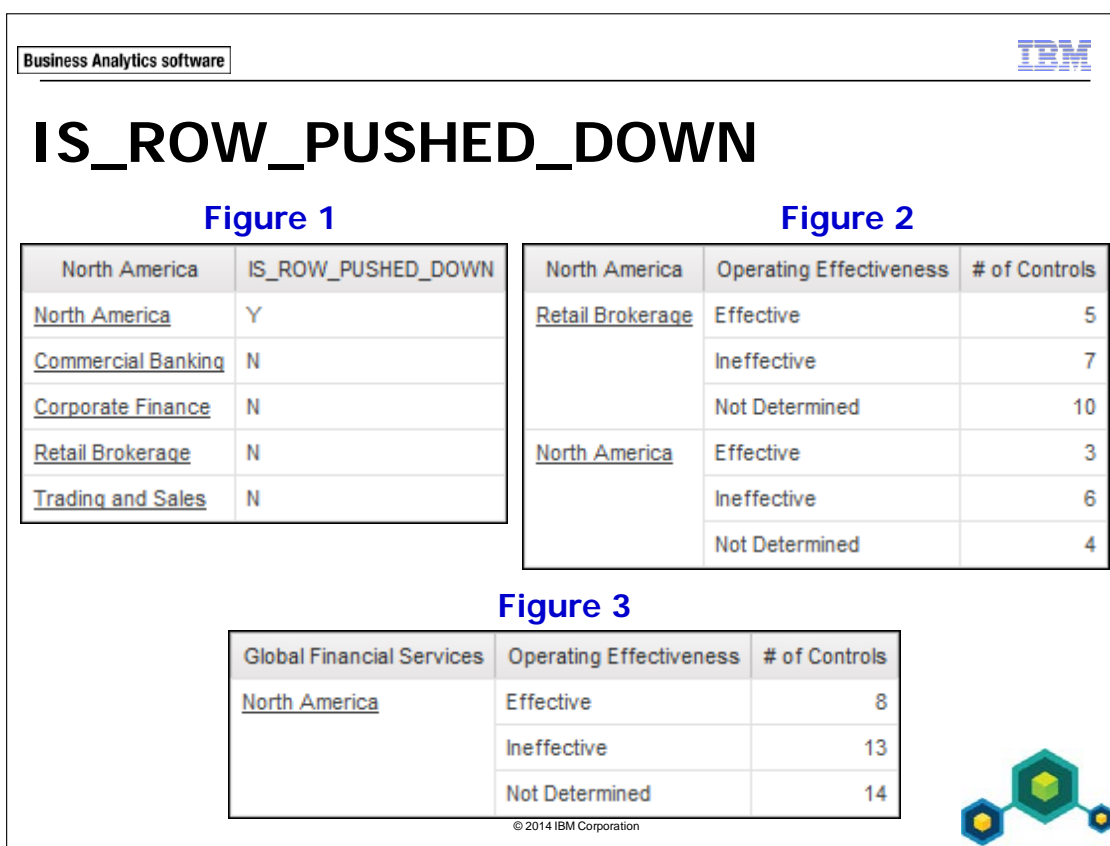
- Corporate (level 1),
- Region (level 2),
- LOB (level 3).

Each entity dimension breaks out a level of the location, or full path, for a given entity.

In this example, compare the **Location** in each row to the corresponding entity dimensions.


- The **Corporate** dimension is the same because it is displaying the first level of the location,
- The **Region** displays the second level of the location,
- The **LOB** displays the third level of the location.

Notice that the first row shows information for the top-most entity level, **Global Financial Services**. **Region** and **LOB** display the same information as **Corporate**, which is the first level in the location. This is due to the fact that the GRC Platform generated reporting framework will "push down" data from the previous, higher, levels.




A data item that has been "pushed down" corresponds to data located at the previous level in the hierarchy. In Figure 1 you can see that **North America** was pushed down to this list of entities.


The dimensional model is designed so that each time you drill down to another level, the data you see adds up to the data from the previous level. In Figure 3 you can see there are a total of 35 controls that are directly under the /North America entity. When you drill down on **North America** (Figure 2) you see that 13 controls are directly associated to the /North America entity hierarchy and 22 are associated to the /North America/Retail Brokerage hierarchy. If the "pushed down" information was not displayed in Figure 2, the user could be confused as to why the total control count is different.

Business Analytics software


Pushed Down Filtering


North America	CN_OPERATING_EFFECTIVENES	SOXCONTROL (COUNT)
Retail Brokerage	Effective	5
	Ineffective	7
	Not Determined	10

 Detail Filters

 [IS_ROW_PUSHED_DOWN]='N'

Properties

- ☐ CORPORATE
- ☐ CN_OPERATING_EFFECTIVENES
- ☐ SOXCONTROL (COUNT)
- ☒ IS_ROW_PUSHED_DOWN

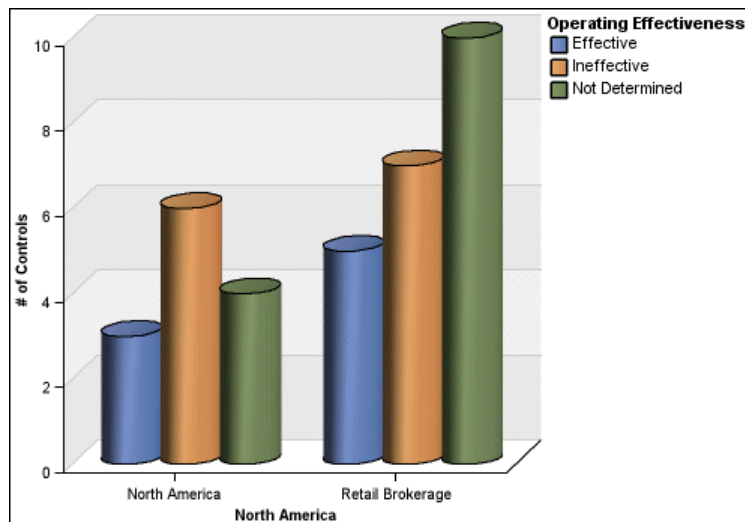


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There will times when you do not want to see data "pushed down" from the previous level, as shown in this example. In those cases, add a detail filter using the IS_ROW_PUSHED_DOWN query item. You must also make the IS_ROW_PUSHED_DOWN data item part of the properties of the report container.

Demo 2

DIM Push Down Reports



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NOTE: For each of the Report Studio demonstrations in this module, and all remaining modules in this course, you will create reports with a user ID that uses the Report Design Language (English (Canada) locale). This will give you experience viewing and navigating the namespaces as if you had launched Report Studio using the IBM Cognos URL.

Demo 2: DIM Push Down Reports

Purpose:

You will learn to use the IBM OpenPages GRC Platform generated reporting framework to create IBM Cognos Report Studio reports. You will use the **DEFAULT_DIM** namespace for the demonstration.

Portal: <http://optrainvm/ibmcognos>

User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the report page.

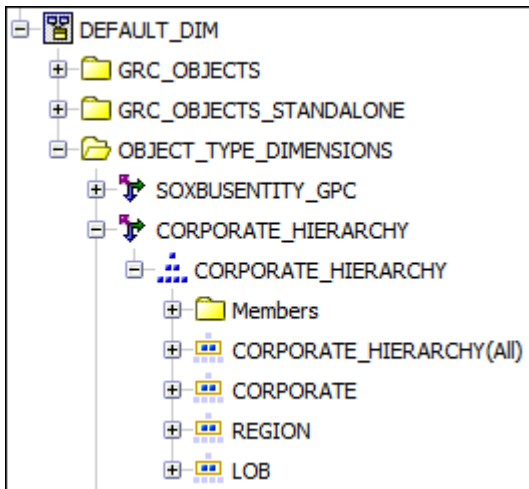
1. In Report Studio, create a new list report.
2. Select the list container, and in the **Ancestor Selector** select **List**.
3. Change the **Name** property to **RS OpEff Summary List DIM**.
4. Select the report page work area and confirm the ancestor selector displays **Page Body**.
5. In the tool bar, click **Center**.
6. Double-click the text item in the report page header.
7. Type **Operating Effectiveness Summary** and click **OK**.

Task 2. Populate the list query.

1. Point to **Query Explorer** to slide it open and select **Query1**.
2. In the **Properties** pane, change the **Name** property to **List Query**.

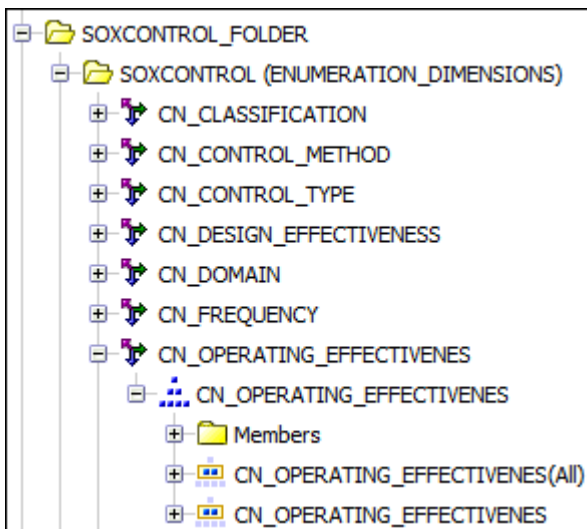
3. In the content pane, select the **Source** tab and expand
 DEFAULT>DEFAULT_DIM > OBJECT_TYPE_DIMENSIONS >
 CORPORATE_HIERARCHY > CORPORATE_HIERARCHY

The results appear as follows:



4. Drag the CORPORATE level into the **Data Items** pane.
5. Expand the CORPORATE level.
6. Drag the **IS_ROW_PUSHED_DOWN** data item into the Data Items pane.
7. Expand DEFAULT_DIM > GRC_OBJECTS > SOXCONTROL_FOLDER
 > SOXCONTROL (ENUMERATION_DIMENSIONS) >
 CN_OPERATING_EFFECTIVENES

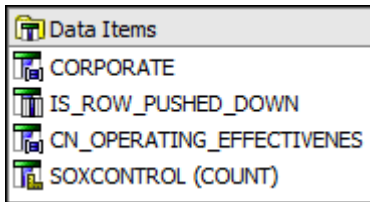
The results appear as follows:



8. Add the **CN_OPERATING_EFFECTIVENES** level to the Data Items
 pane.
9. Scroll down and expand SOXCONTROL_FACTS.

10. Add **SOXCONTROL (COUNT)** to the Data Items pane.

The results appear as follows:



11. Change the **Label** property for the following data items:
 - **CORPORATE**: Corporate,
 - **CN_OPERATING_EFFECTIVENES**: Operating Effectiveness,
 - **SOXCONTROL (COUNT)**: # of Controls.
12. Save the report as **06-DIM Push Down List** in **My Folders**.

Task 3. Populate the list container.

1. To return to the list container, point to **Page Explorer** to slide it open and select **Page1** under **Report Pages**.
2. In the **Content Pane**, select the **Data Items** tab.
3. Add the following to the list container, in order:
 - Corporate,
 - Operating Effectiveness,
 - # of Controls.
4. Click once on the **Corporate** column.
5. In the tool bar, click **Group / Ungroup**.

The results appear as follows:

Corporate	Operating Effectiveness	# of Controls
<CORPORATE>	<CN_OPERATING_EFFECTIVENES>	<SOXCONTROL (COUNT)>
<CORPORATE>	<CN_OPERATING_EFFECTIVENES>	<SOXCONTROL (COUNT)>

Task 4. Enable drill-up and drill-down.

1. Open the **Data** menu and select **Drill Behavior**.
2. Enable Allow drill-up and drill-down.
3. Disable drill-up and drill-down for CN_OPERATING_EFFECTIVENES.
4. Click OK.
5. Run the report HTML, test and validate the results.
 - Click on Global Financial Services. You should now see three sub-entities.
 - Click on North America. You should now see two sub-entities, one of which is North America (this is the pushed down data, not a sub-entity).
 - Right-click North America and select Drill Up.
6. Close the **IBM Cognos Viewer** window.
7. Save the changes to the report.

Task 5. Add push down filter.


1. Navigate to the report's query (**List Query**).
2. From the **Data Items** pane, drag IS_ROW_PUSHED_DOWN into the **Detail Filters** pane.
3. Place the cursor at the end of the expression and type **= 'N'**.

The results appear as follows:

[IS_ROW_PUSHED_DOWN] = 'N'

4. Run the report HTML and drill down two levels into North America. Notice that you still see North America as push down data.
5. Close Cognos Viewer and click any column in the list container.
6. In the ancestor selector, select **List** and open the **Properties** property.
7. Check the box next to **IS_ROW_PUSHED_DOWN** and click **OK**.
8. Run the report HTML, drill down two levels into North America again. You should now only see the **Retail Brokerage** sub-entity.
9. Close Cognos Viewer and save the changes to the report.

Task 6. Add additional report containers.

1. Open the **File** menu and select **Save As**.
2. Save the report as **06-DIM Push Down Combo**.
3. In the Content Pane select the **Toolbox** tab.
4. Drag a **Table** tool into the work area:
 - **Columns:** 2,
 - **Rows:** 3,
 - clear **Maximize width** and click **OK**.
5. Select table cells R1C1 and R1C2.
6. In the tool bar, click **Merge Cells**. 
7. Change the following properties for the top row of the table:
 - **Horizontal Alignment:** Center,
 - **Vertical Alignment:** Bottom
8. Select table cells R2C1 and R2C2 and merge cells.
9. For the second row of the table, change the **Size & Overflow** property:
 - **Height:** 50px.
10. Click any column in the list container and in the ancestor selector, select **List**.
11. Drag the selected list container into the top row of the table.
12. Select table cell R3C1 and format the following:
 - **Padding:** Right 30px,
 - **Horizontal Alignment:** Center,
 - **Vertical Alignment:** Top.
13. Select table cell R3C2 and format the following:
 - **Padding:** Left 30px,
 - **Vertical Alignment:** Top.

14. From the toolbox, add a **Crosstab** to table cell R3C1:
 - **Query Name:** List Query,
 - click **OK**.
15. Select the crosstab container and confirm the ancestor selector displays **Crosstab**:
 - **Name:** RS OpEff Summary Crosstab DIM.
16. From the toolbox, add a **Chart** to table cell R3C2:
 - **Column:** Clustered Cylinder with 3-D Effects,
17. Select the chart container and confirm the ancestor selector displays **Combination Chart**.
18. Change the following properties:
 - **Query:** List Query,
 - **Name:** RS OpEff Summary Chart DIM.

Task 7. Populate the crosstab container.

1. From the **Data Items** tab of the content pane, add the following:
 - **Rows:** Corporate,
 - **Columns:** CN_OPERATING_EFFECTIVENES,
 - **Measures:** SOXCONTROL (COUNT).
2. Click on the left edge of the crosstab container.
3. Open the **Properties** property.
4. Check the box next to **IS_ROW_PUSHED_DOWN** and click **OK**.
5. Click the top left corner of the crosstab container (**Crosstab Corner**).
6. Change the **Source Type** property to **Text**.

Task 8. Populate the chart container.

1. From the **Source** tab of the content pane, add the following:
 - **Categories:** Corporate,
 - **Series:** CN_OPERATING_EFFECTIVENES,
 - **Default measure:** SOXCONTROL (COUNT).
2. Click on **CORPORATE** in the Categories field.
3. Open the **Properties** property.
4. Check the box next to **IS_ROW_PUSHED_DOWN** and click **OK**.
5. Save the changes.
6. Run the report HTML and using the crosstab, drill down and up the entity hierarchy, selecting each of the second level entities on which to drill-down. Notice how all three reports drill up and down together.
7. Close Cognos Viewer.
8. In the tool bar open the **Filter** menu and select **Edit Filters**.
9. Select the pushed down filter, in the **Usage** pane select **Disabled** and click **OK**.
10. Run the report HTML and again drill down and up, especially on **North America**. Notice how the pushed down data now appears.
11. Close Cognos Viewer.
12. Do NOT save the changes.

Results:

You have created DIM reports using Report Studio and observed the use of pushed down data and a pushed down filter.

Demo 3

REL Report

<u>Key Risk Summary</u>						
<u>KRI</u>	Current Value	Average Value	Trend	Range	Yellow Threshold	Red Threshold
KRI-0043	2.90	2.38	Worse	1-10	2.0	4.0
KRI-0044	0.40	2.41	Worse	1-5	1.0	3.0
KRI-0045	0.60	1.71	Better	1-3	0.5	2.0
KRI-0046	1.80	3.73	Better	1-10	2.0	5.0
KRI-0047	5.90	4.61	Better	1-10	6.0	3.0
KRI-0048	2.90	2.65	Worse	1-5	1.0	3.0
KRI-0049	1.90	1.58	Worse	1-3	0.5	2.0
KRI-0050	4.00	4.90	Worse	1-10	2.0	5.0

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Demo 3: REL Report

Purpose:

You will learn to use the IBM OpenPages GRC Platform generated reporting framework to create IBM Cognos Report Studio reports. You will use the **DEFAULT_REL** namespace for the demonstration.

Portal: <http://optrainvm/ibmcognos>

User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the report page.

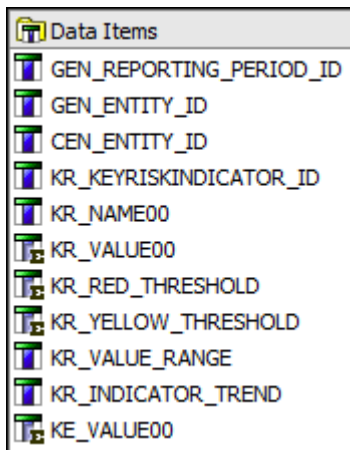
1. In Report Studio, create a new list report.
2. Select the **List** container and change the **Name** property to **RS KRI Summary List REL**.
3. Select the report page work area and center it.
4. Set the report page title to **Key Risk Summary**.

Task 2. Populate the list query.

1. Navigate to the report's **Query1** and change the name to **List Query**.
2. In the **Source** tab of the **Content Pane**, expand **DEFAULT_REL > GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS**.
3. Add the following to the **Data Items** pane:
 - **GEN_REPORTING_PERIOD_ID**,
 - **GEN_ENTITY_ID**,
 - **CEN_ENTITY_ID**.
4. Expand **GRC_OBJECTS > KEYRISKINDICATOR > ID_FIELDS**.

5. Add the following to the **Data Items** pane.
 - KR_KEYRISKINDICATOR_ID,
 - KR_NAME00,
 - KR_VALUE00,
 - KR_RED_THRESHOLD,
 - KR_YELLOW_THRESHOLD,
 - KR_VALUE_RANGE.
6. Expand ENUMERATION_FIELDS > INDICATOR_TREND (ENUMERATION) folder and add **KR_INDICATOR_TREND** to the Data Items pane.
7. Expand the **KEYRISKINDICATORVALUE** query subject and add KE_VALUE00 to the **Data Items** pane.

The results appear as follows:

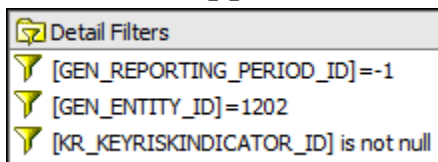


There are two value data items. The KR_VALUE00 contains the most recent KRI Value entered into the GRC Platform for the KRI. The KE_VALUE00 will return every KRI Value entered for a KRI. For this report, we want to display the current KRI value and the average of all KRI values for a KRI.

8. Click **KR_VALUE00** and change the following properties:
 - **Aggregate Function:** None
 - **Rollup Aggregate Function:** None
9. Repeat the above changes to the aggregate functions for **KR_RED_THRESHOLD** and **KR_YELLOW_THRESHOLD**.

10. For **KE_VALUE00**, change **Aggregate Function** to **Average**.
11. Change the **Label** property for the following:
 - **KR_NAME00**: KRI,
 - **KR_VALUE00**: Current Value,
 - **KR_RED_THRESHOLD**: Red Threshold,
 - **KR_YELLOW_THRESHOLD**: Yellow Threshold,
 - **KR_VALUE_RANGE**: Range,
 - **KR_INDICATOR_TREND**: Trend,
 - **KE_VALUE00**: Average Value.
12. Create the current reporting period filter:
 - from the **Data Items** pane drag **GEN_REPORTING_PERIOD_ID** into the **Detail Filters** pane,
 - set the expression equal to negative one (-1),
 - click **OK**.
13. Create the starting GEN entity /**Global Financial Services**:
 - from the Data Items pane drag **GEN_ENTITY_ID** into the **Detail Filters** pane,
 - set the expression equal to **1202**,
 - click **OK**.
14. Create the **Is Not Null** filter using the key risk indicator identifier:
 - from the Data Items pane drag **KR_KEYRISKINDICATOR_ID** into the **Detail Filters** pane,
 - add **is not null** to the end of the expression,
 - click **OK**.

The results appear as follows:



15. Save the report as **06-REL KRI Summary List** in **My Folders**.

Task 3. Populate the list container.

1. Slide open **Page Explorer** and select **Page1** under **Report Pages** to return to the list container.
2. In the content pane, click the **Data Items** tab and add the following, in order, to the list container:
 - KR_NAME00,
 - KR_VALUE00,
 - KE_VALUE00,
 - KR_INDICATOR_TREND,
 - KR_VALUE_RANGE,
 - KR_YELLOW_THRESHOLD,
 - KR_RED_THRESHOLD.

The results appear as follows:

KRI	Current Value	Average	Trend	Range	Yellow Threshold	Red Threshold
<KR_NAME00>	<KR_VALUE00>	<KE_VALUE00>	<KR_INDICATOR_TREND>	<KR_VALUE_RANGE>	<KR_YELLOW_THRESHOLD>	<KR_RED_THRESHOLD>
<KR_NAME00>	<KR_VALUE00>	<KE_VALUE00>	<KR_INDICATOR_TREND>	<KR_VALUE_RANGE>	<KR_YELLOW_THRESHOLD>	<KR_RED_THRESHOLD>
<KR_NAME00>	<KR_VALUE00>	<KE_VALUE00>	<KR_INDICATOR_TREND>	<KR_VALUE_RANGE>	<KR_YELLOW_THRESHOLD>	<KR_RED_THRESHOLD>

3. Run the report HTML and review the results. In the following task you will apply some formatting to make the look nicer and easier to interpret, including:
 - format the two value columns to display two decimal places and right aligned,
 - format the two threshold columns to display one decimal place and right aligned,
 - sort the list by KRI in ascending order,
 - focus the report on the current and average values and the rest as supporting information.
4. Close Cognos Viewer and save changes to the report.

Task 4. Format the list column widths.

1. Click the **List Column Body** (white detail cells) for any column in the list container.
2. In the properties pane Ancestor Selector, select **List Columns Body Style**.
3. Open the property **Size & Overflow**:
 - **Width**: 0.5 inches (in),
 - click **OK**.
4. Run the report HTML to view the results and then close Cognos Viewer.

Task 5. Format the KRI column.


1. Click the **List Column Body** of the **KRI** column.
2. In the tool bar, open the **Sort** menu and select **Ascending**.
3. In the **Properties** pane, configure the following:
 - **Background Color**: Custom Color
 - **Red**: E9,
 - **Green**: E9,
 - **Blue**: E9.
 - **Font**: Bold
4. Click the **List Column Title** (column title) of the **KRI** column.
5. Open the **Border** property:
 - **Style**: None,
 - click the left margin button,
 - click the top margin button,
 - click **OK**.
6. In the **Properties** pane, configure the following:
 - **Background Color**: Transparent,
 - **Font**: Bold and Underline,
 - **Vertical Alignment**: Bottom.
7. Run the report HTML to view the results and then close Cognos Viewer.
8. Save changes to the report.

Task 6. Add a gap between columns.

In this task you will add a gap between **Average Value** and **Trend** to help focus attention to the two value columns. Either the **Block** or **Text Item** tools can be used to achieve this. You will use the block tool.

1. From the **Toolbox** tab of the content pane, drag a **Block** between the **Average Value** and **Trend** columns.
2. Click on the **List Column Title** and open the **Text** property in the properties pane.
3. Delete the text in the **Text** box and click **OK**.
4. Open the **Border** property:
 - **Style:** None,
 - click the top margin button,
 - click the bottom margin button.
 - click **OK**.
5. Change the **Background Color** property to **Transparent**.
6. Click the **List Column Body** and open the **Border** property:
 - **Style:** None,
 - click the top margin button,
 - click the bottom margin button.
 - click **OK**.
7. Open the **Size & Overflow** property:
 - **Width:** 1px.
8. Run the report HTML to view the results and then close Cognos Viewer.
9. Save changes to the report.

Task 7. Format columns containing numbers.

1. In the **Current Value** column, select **List Column Body** and open the **Data Format** property:
 - **Format type:** Number,
 - **No. of Decimal Places:** 2,
 - click **OK**.
2. Repeat for the **Average Value** column.
3. In the **Yellow Threshold** column, select **List Column Body** and open the **Data Format** property:
 - **Format type:** Number,
 - **No. of Decimal Places:** 1,
 - click **OK**.
4. Repeat for the **Red Threshold** column.
5. Click the List Column Body for **Current Value**.
6. Hold down the **<Ctrl>** key and click the List Column Body for the following columns:
 - Average Value,
 - Yellow Threshold,
 - Red Threshold.
7. In the tool bar, click **Right**. 
 - Notice that this sets the **Horizontal Alignment** property to **Right**.
8. Run the report HTML to view the results and then close Cognos Viewer.
9. Save the changes.
10. Exit Report Studio, log off, and close all browser windows.

Results:

You have created a list report in Report Studio using the DEFAULT_REL namespace.

Summary

- At the end of this module, you should be able to:
 - identify key items in the Report Studio window
 - explain how to view tabular data
 - define standard filters
 - understand the use of entity data groups
 - explain the concept of a starting entity
 - identify pushed down data

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IMPORTANT

Solutions for the demos in this module can be found in:

Public Folders > 1O202 Solution Reports > Module 06.



Drill Capabilities

IBM OpenPages: Report Authoring (v7.0)

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Objectives

- At the end of this module, you should be able to:
 - differentiate between drill-up and drill-down, drill-through, and CrossTrack links
 - identify the namespace needed to create reports utilizing drill-up and drill-down
 - create reports using each of the drill techniques


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NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2) (J2258)* you may struggle completing the demonstrations in this module. Allow extra time to complete each demonstration.

Introduction


- IBM OpenPages and IBM Cognos support different types of drill capabilities within a report.
- This module will explain these capabilities and provide demonstrations on each of them.




Business Analytics software


Drill-Down


ACTUAL_LOSS_BA (SUM)	Customer Intake and Documentation	Customer/Client Account Management	Reporting and Disclosure
Asia Pac	1,500,000	100,000	15,000,000



Drill-down




ACTUAL_LOSS_BA (SUM)	Customer Intake and Documentation	Customer/Client Account Management	Reporting and Disclosure
Retail Brokerage		100,000	
Commercial Banking	1,500,000		15,000,000



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Drilling down in a report exposes another layer of granularity within the same report. For example, drilling down from the second level entity **Asia Pac** will display the data from the perspective of the third level entities.

If your business reporting requirements include the need for drill-up and drill-down, the OpenPages GRC Platform administrator must perform additional configuration changes and you, the report author, must use the **_DIM** namespace.


Business Analytics software


Drill-Up

ACTUAL_LOSS_BA (SUM)	Customer Intake and Documentation	Customer/Client Account Management	Reporting and Disclosure
Asia Pac	1,500,000	100,000	15,000,000


Drill-up


ACTUAL_LOSS_BA (SUM)	Customer Intake and Documentation	Customer/Client Account Management	Reporting and Disclosure
Retail Brokerage		100,000	
Commercial Banking	1,500,000		15,000,000



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Drilling up in a report is the reverse of drilling down. Data is summarized at a higher level (less granularity.) For example, drilling up from the third level entity **Retail Brokerage** will display data from the perspective of the parent second level entity **Asia Pac**.

Demo 1

DMR Drill-Down Report

<u>Effectiveness by Entity</u>			
	Effective	Ineffective	Not Determined
<u>Asia Pac</u>	13	5	34
<u>EMEA</u>	7	6	9
<u>North America</u>	5	7	10

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IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: DMR Drill-Down Report

Purpose:

To create a crosstab report with drill-up and drill-down capability on an entity recursive object level.

Portal: <http://optrainvm/ibmcognos>

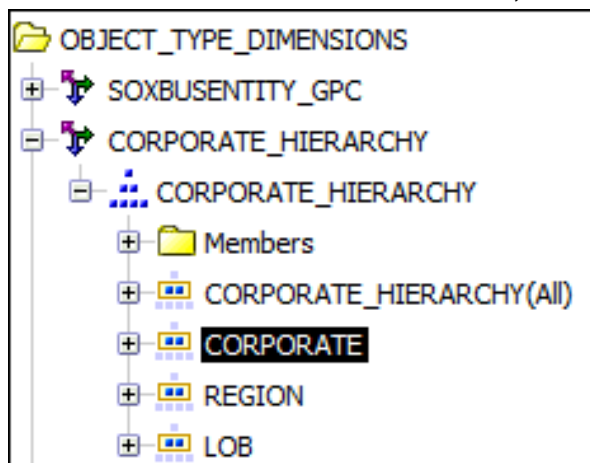
User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

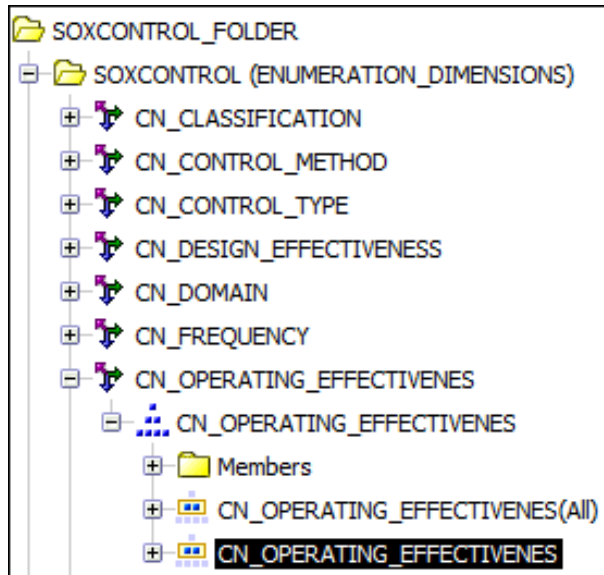
Package: **OPENPAGES_REPORTS_V6**

Task 1. Create a crosstab report.

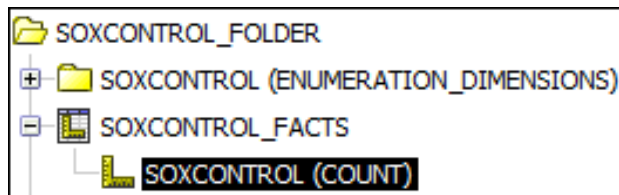
1. In Report Studio, start with a new crosstab report.
2. Select the crosstab container and change the name to **Effectiveness Crosstab**.
3. Expand the DEFAULT_DIM namespace.
4. Add the following to the crosstab container:
 - Rows: **CORPORATE** level (from OBJECT_TYPE_DIMENSIONS > CORPORATE_HIERARCHY),



- Columns: **CN_OPERATING_EFFECTIVENES** level (from GRC_OBJECTS > SOXCONTROL_FOLDER > SOXCONTROL (ENUMERATION_DIMENSIONS) > CN_OPERATING_EFFECTIVENES),



- Measures: **SOXCONTROL (COUNT)** (from GRC_OBJECTS > SOXCONTROL_FOLDER > SOXCONTROL_FACTS).

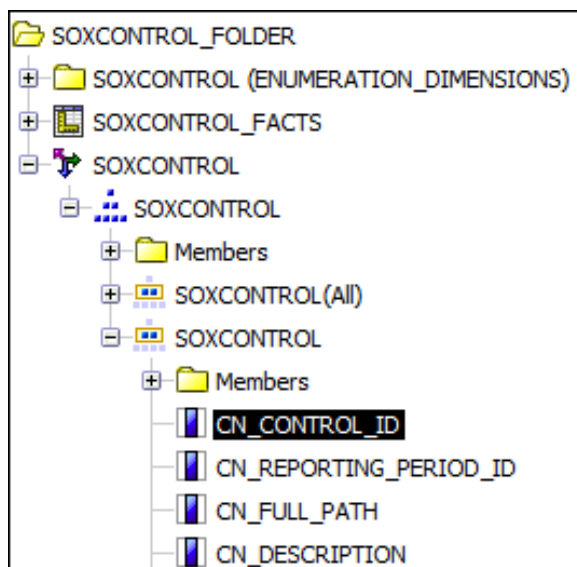


The results appear as follows:

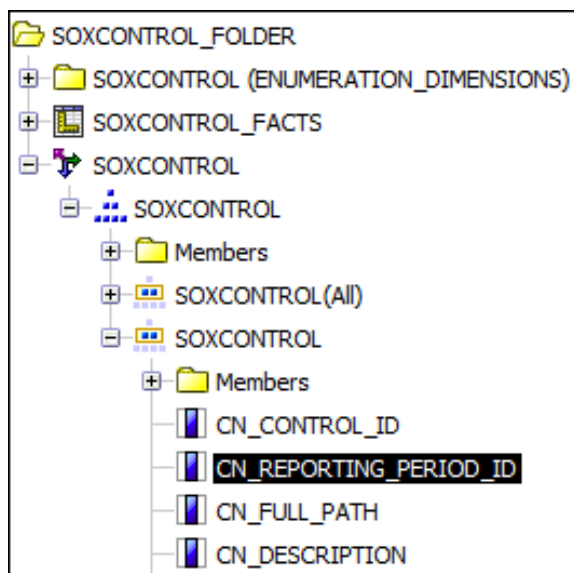
SOXCONTROL (COUNT)	<#CN_OPERATING_EFFECTIVENES#>	<#CN_OPERATING_EFFECTIVENES#>
<#CORPORATE#>	<#1234#>	<#1234#>
<#CORPORATE#>	<#1234#>	<#1234#>

5. Navigate to the report's query, change the name to **Crosstab Query** and add the following:

- CN_CONTROL_ID (from GRC_OBJECTS > SOXCONTROL_FOLDER > SOXCONTROL),

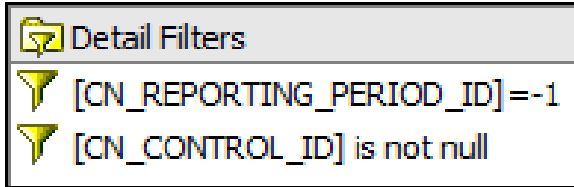


- CN_REPORTING_PERIOD_ID (from GRC_OBJECTS > SOXCONTROL_FOLDER > SOXCONTROL).



6. Create the following detail filters:
 - current reporting period,
 - Is Not Null using the Control identifier.

The results appear as follows:



7. Run the report HTML, test and validate.
8. Save the report as **07-Drill Down Crosstab** in **My Folders**.

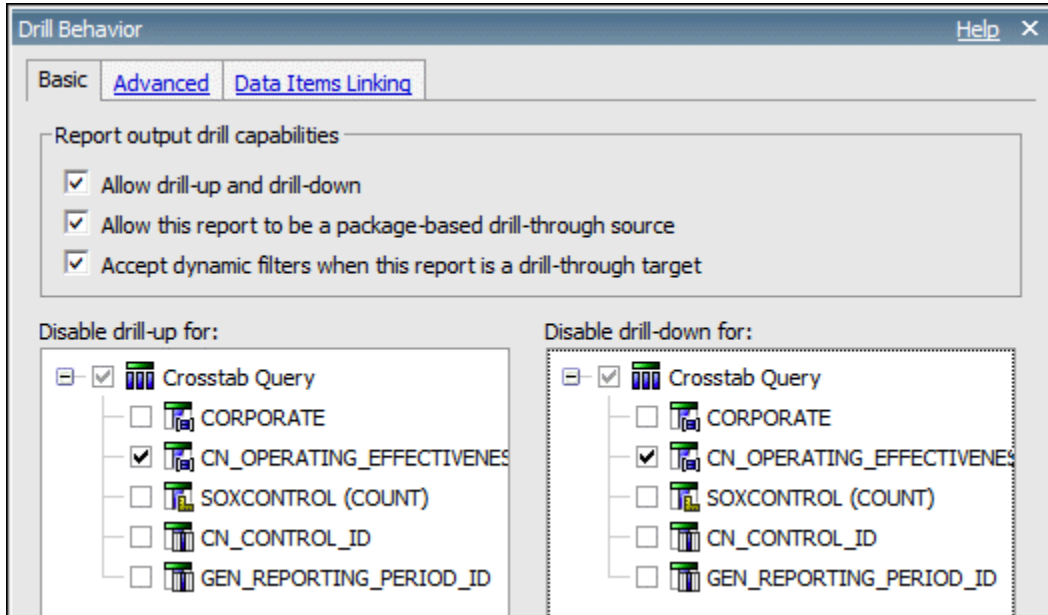
Task 2. Format the report.

1. Navigate to report pages Page1 to return to the crosstab container.
2. Select the report page body and center it.
3. Set the page title to **Effectiveness by Entity**.
4. Click the top-left corner of the crosstab container (**Crosstab Corner** appears in the title bar of the Properties pane).
5. Change the **Source Type** property to **Text**.
6. Save the changes.

Task 3. Enable drill behavior.

1. From the **Data** menu select **Drill Behavior**.
2. Select **Allow drill-up and drill-down**.
3. Disable drill-up and drill-down for Operating Effectiveness.

The results appear as follows:

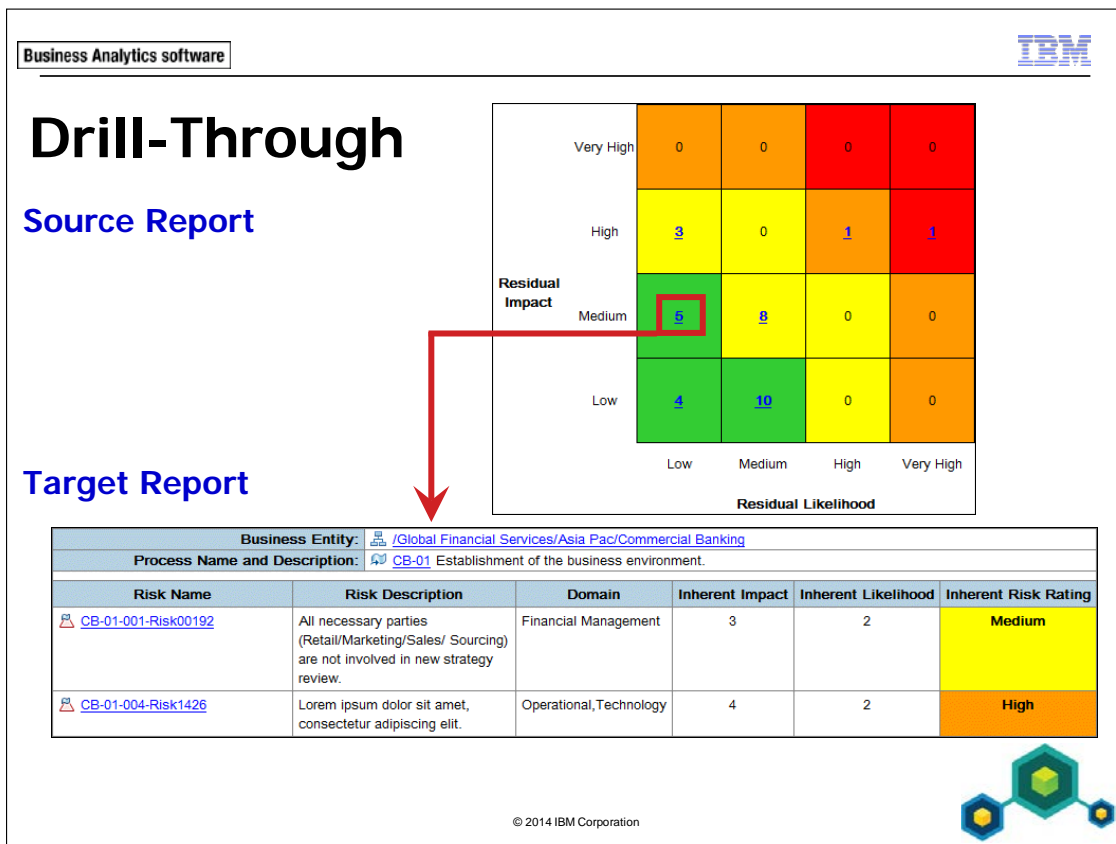


Task 4. Test and validate.

1. Run the report HTML.
2. Note the numbers for the **Global Financial Services** entity.
3. Click the **Global Financial Services** link to drill-down one level.
4. Click the **Asia Pac** link to drill-down another level.
5. Analyze the numbers displayed.
6. Right-click any entity link and select **Drill-Up**.
7. Save the changes.

Results:

You created a crosstab report with drill-up and drill-down capability on an entity recursive object level.



A drill-through report consists of a **Source** report and a **Target** report. These are unique reports, displaying different types of data, which are linked together with one or more elements of the source report to element(s) in the target report. The user runs the first report and when a link is clicked the second report is run automatically.

The report author must pass selected data from the source report to parameters in the target report. Best practice is to use identifiers for this purpose. The target report cannot contain prompts; all parameters must have data supplied from the source report.


Drill-Through Report Types

SOURCE	TARGET
REL	REL
DIM	DIM
DIM	REL

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You cannot use a source report created with a relational (REL) namespace and drill through to a target report created with a dimensionally modeled relational (DIM) namespace.


Business Analytics software


Drill-Through Setup


Risk Category



Entity




	Internal Fraud	External Fraud
Retail Banking	<u>60,000</u>	<u>1,793,233</u>
Retail Brokerage		
Commercial Banking		<u>72,900,000</u>



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In the source report, you must declare data items to be used for pass through if they are not a component of the report container.

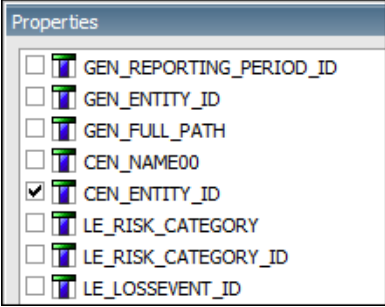
In this illustration, when you click **60,000** you need to pass the Risk Category (Internal Fraud) and Entity (Retail Banking) information for that cell to the target report. Following best practices you will pass the identifiers for the Risk Category and Entity. However, these two identifiers are not represented in this rendering. Therefore, you must associate the identifiers to the corresponding top and left edge components.

Business Analytics software


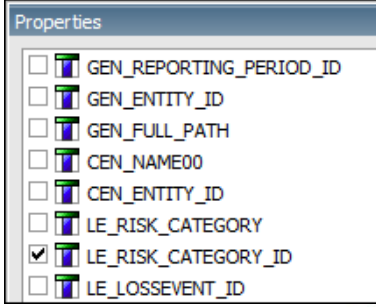
Data Properties


- You declare data items in the **Properties | Data | Properties** page.

Left Edge



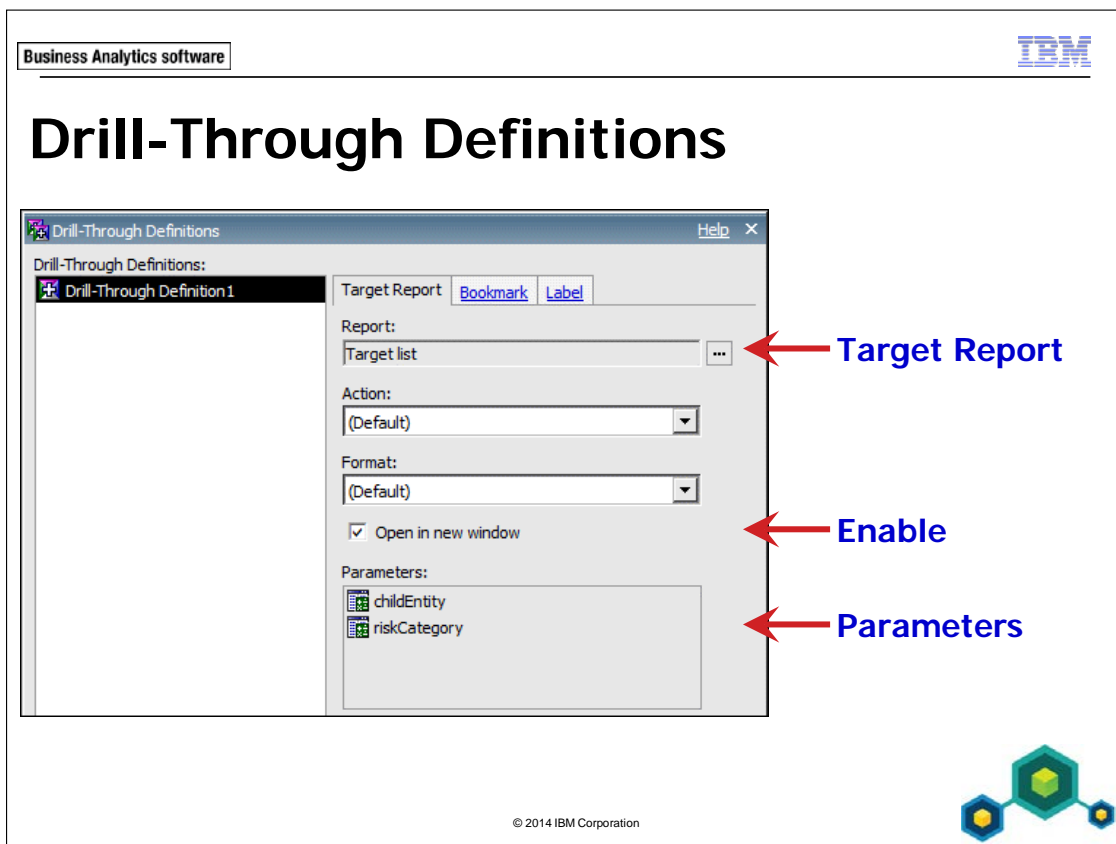
Top Edge





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You add the two ID's to the query then associate them using the **Data | Properties** property for each edge component.



The Drill-Through Definitions screen has three settings you need to configure:

- select the **Target Report**,
- enable **Open in new window**,
- and **Parameters**.

Once you have selected the Target Report you cannot change the name of the target report file or its location within the Cognos Connection Public Folders.

As a best practice, you always want the target report to open in a separate browser window. This lets you return to the source report without running it again.

You configure the parameters by clicking the pencil button.

Parameters

- The parameters configuration screen displays:
 - the parameter names found in the Target Report,
 - the data type the parameter can accept,
 - indication of required parameters.

Name	Type	Required
ChildEntity	Number	✓
DiscoveryDate	Date/Time	
LE_Owner	String	
RiskCat	Number	✓

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This illustration shows the first three columns of the Parameters screen.





The **Name** field is populated from the parameterized filters in the target report.

The **Type** and **Required** settings are based upon the parameterized filter in the target report. You cannot change them in this screen.

If a parameter is not required, you do not need to pass data to it. However, you must be sure to validate the results if you do not pass optional data to the target report.

Parameters (cont'd)

- The parameters configuration screen displays:
 - indication of the ability to accept multiple values,
 - the method to pass values,
 - the data item used to pass values.

Multi-select	Method		Value	
	Pass data item value	▼	 CEN_ENTITY_ID	▼
✓	Pass parameter value	▼	 DateRange	▼
✓	Pass parameter value	▼	 Owner	▼
	Pass data item value	▼	 LE_RISK_CATEGORY_ID	▼

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This illustration shows columns 4-6 of the Parameters screen.

The **Multi-select** setting is based upon the parameterized filter settings in the target report. You cannot change them in this screen.

You will typically set the **Method** to **Pass data item value** when passing crosstab edge information. You will set **Pass parameter value** when you want to take a prompt selection from the source report and pass it to the target report to make sure the filtering is identical in both reports.

DIM to REL

- When using a DIM namespace source report and a REL namespace target report, there are considerations when passing identifiers, for example entity identifiers.
- Typically you will set the **Property to Pass** field in the drill-through definitions to **Business Key**. This will convert a dimensional value to a number that can be used by a parameterized filter using a REL identifier query item.



Demo 2

REL to REL Drill Through

<u>Risk Domain Summary</u>					
	Compliance	Financial Management	Internal Audit	Operational	Technology
/Global Financial Services/Asia Pac/Commercial Banking	3	4	4	11	6
/Global Financial Services/Asia Pac/Retail Banking	2	4	2	10	3
/Global Financial Services/EMEA/Retail Banking	2	4	2	10	3
/Global Financial Services/North America/Retail Brokerage	2	4	2	10	3



Demo 2: REL to REL Drill Through

Purpose:

You will create two reports, one summary and one detail, using the **DEFAULT_REL** namespace for both. In the summary report you will add two drill-through definitions to the detail report.

Portal: <http://optrainvm/ibmcognos>

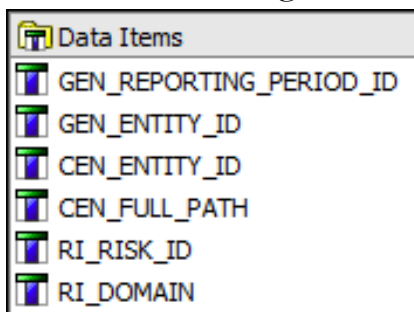
User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

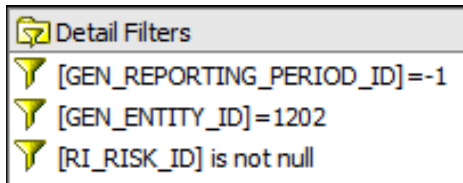
Task 1. Populate the crosstab query.

1. In Report Studio, start with a new crosstab report.
2. Navigate to the report's query and change the name to **Crosstab Query**.
3. In the Source tab, expand the **DEFAULT_REL** namespace:
 - **DEFAULT_REL > GRC_OBJECTS > SOXBUENTITY_FOLDER > SOXBUENTITY_GPC > ID_FIELDS,**
 - **GRC_OBJECTS > SOXRISK > ID_FIELDS,**
 - **GRC_OBJECTS > SOXRISK > ENUMERATION_FIELDS > DOMAIN (ENUMERATION).**
4. Add the following:



5. Create the following detail filters:
 - current reporting period,
 - /Global Financial Services starting entity (1202),
 - Is Not Null using risk identifier.

The results appear as follows:



6. Save the report as **07-REL-REL Summary Crosstab** in **My Folders**.

Task 2. Populate the crosstab container.

1. Navigate to report pages **Page1**.
2. Select the crosstab container and change the Name to **REL-REL Summary Crosstab**.
3. Select the report page body and center it.
4. Set the page title to **Risk Domain Summary**.
5. Populate the crosstab container from the Data Items tab:
 - **Rows:** CEN_FULL_PATH,
 - **Columns:** RI_DOMAIN,
 - **Measures:** RI_RISK_ID.
6. Select the measures section and in the Properties pane ancestor selector select **Crosstab Fact Cells**.
7. Modify the following properties:
 - **Aggregate Function:** Count Distinct,
 - **Rollup Aggregate Function:** Automatic.
8. Run the report and review the report.
9. Close Cognos Viewer and save the changes.

Task 3. Format the crosstab report.

As part of this task you will link the child entity identifier to the child entity location row. This will be needed when you configure the Measures drill-through definition.

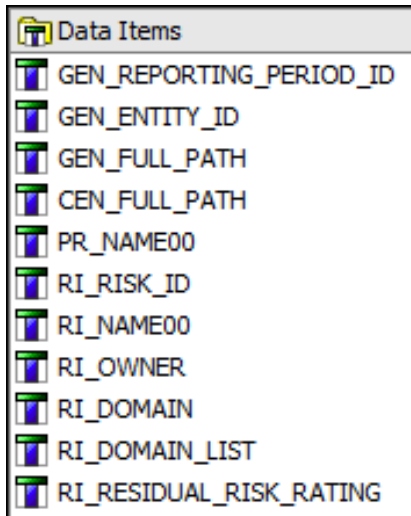
1. Select the top-left corner of the crosstab container. The Properties title bar will display **Crosstab Corner**.
2. Change the Source Type property to **Text**.
3. Select the crosstab left edge (CEN_FULL_PATH) and sort ascending.
4. Open the **Properties** property, select CEN_ENTITY_ID, and click **OK**.
5. Save the changes.

Task 4. Populate the list query.

In this task you will start to create the list report to which the crosstab report just created will drill into.

1. In Report Studio, start with a new list report.
2. Navigate to the report's query and change the name to **List Query**.
3. In the Source tab, expand the DEFAULT_REL namespace:
 - DEFAULT_REL > GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS,
 - GRC_OBJECTS > SOXPROCESS,
 - GRC_OBJECTS > SOXRISK > ID_FIELDS,
 - GRC_OBJECTS > SOXRISK > ENUMERATION_FIELDS > RESIDUAL_RISK_RATING (ENUMERATION).
 - GRC_OBJECTS > SOXRISK > ENUMERATION_FIELDS > DOMAIN (ENUMERATION).

4. Add the following:



5. Edit the following data item label properties:

- **CEN_FULL_PATH**: Location,
- **PR_NAME00**: Process,
- **RI_NAME00**: Risk,
- **RI_OWNER**: Owner,
- **RI_DOMAIN_LIST**: Domain,
- **RI_RESIDUAL_RISK_RATING**: Rating.

6. Create the following detail filters:

- current reporting period,
- Is Not Null using risk identifier.

7. Create a parameterized entity filter:

- from the data items pane, drag **GEN_ENTITY_ID** into the **Detail Filters** pane,
- place your cursor at the end of the expression and type **=?EntityID?** and click **OK**.

The results appear as follows:

[GEN_ENTITY_ID]=?EntityID?

8. Create a parameterized domain filter. Since the Risk Domain field in the GRC Platform is a multi-select enum, you must use the **IN** operator for this filter:
 - from the data items pane, drag **RI_DOMAIN** into the Detail Filters pane,
 - place your cursor at the end of the expression and type **in (?Domain?)** and click **OK**.

The results appear as follows:

[RI_DOMAIN] in (?Domain?)

9. Save the report as **07-REL-REL Detail List** in **My Folders**.

Task 5. Populate the list container.

1. Navigate to report pages **Page1**.
2. Select the list container and change the Name to **REL-REL DT List**.
3. Select the report page body and center it.
4. Set the page title to **Risk Domain Detail**.
5. Populate the list container in the following order:
 - Location,
 - Process,
 - Risk,
 - Owner,
 - Domain,
 - Rating.
6. Group the following in order:
 - Location,
 - Process.
7. Save the changes.

Task 6. Test the list report.

1. Run the report HTML.
2. Use the following selections for the Cognos prompts:

- **RI_DOMAIN:** Compliance,
- **GEN_ENTITY_ID:** 1204


The results appear as follows:

Location	Process	Risk	Owner	Domain	Rating
/Global Financial Services/Asia Pac/Commercial Banking	CB-01	CB-01-004-Risk1425	orm	Compliance,Technology	Low
		CB-01-003-Risk1423	orm	Compliance,Operational	Medium
	CB-41	CB-41-158-Risk1837	orm	Compliance,Technology	Low
/Global Financial Services/Asia Pac/Retail Banking	RB-07	RB-07-Risk1423	orm	Compliance,Operational	Very High
	RB-08	RB-08-Risk1425	ORMdir	Compliance,Technology	Low

3. Close Cognos Viewer.

Task 7. Configure the Measures drill-through definition.



In this task you will configure the measures section for drill-through. Since each cell in the measures is an intersection of a child entity and a domain option, you will pass the child entity and domain information to the list report.

1. Open the **07-REL-REL Summary Crosstab** report.
2. Click any of the white cells in the Measures section of the crosstab container.
3. In the properties pane ancestor selector, select **Crosstab Fact Cells**.
4. Open the **Drill-Through Definitions** property.
5. Click the **New** button to add a drill-through definition. 
6. Click the **Rename** button, enter **Measures Definition**, and click **OK**.
7. Click the browse button next to the **Report** field.
8. Navigate to **My Folders**, select **07-REL-REL Detail List**, and click **Open**.
9. Check the box next to **Open in new window**. This will let you open the list report, close it when finished, and still have the crosstab report displayed for additional work.
10. Click the edit button (pencil icon) under the **Parameters** pane.

11. Configure the following:

- In the **Method** column select **Pass data item value** for both rows,
- In the **Domain** row, select the value **RI_DOMAIN** (this will uniquely identify the selected column),
- In the **EntityID** row, select the value **CEN_ENTITY_ID** (this will uniquely identify the selected row).

The results appear as follows:

Name	Type	Required	Multi-select	Method	Value
Domain	String	✓	✓	Pass data item value	 RI_DOMAIN
EntityID	Number	✓		Pass data item value	 CEN_ENTITY_ID

12. Click **OK** twice to return to the crosstab container page.



13. Save the changes.

Task 8. Configure the top edge drill-through definition.

In this task you will configure the RI_DOMAIN column headers for drill-through. When you click one of the Domain options, the list report will show all risk records that contain that domain option. Since you are not specifying a row, you will use the GEN identifier for the **EntityID** parameter.

1. Click the crosstab top edge. The properties pane title bar will display **Crosstab Node Member**.
2. Repeat the steps in **Task 7** above with the following changes:
 - **Drill-Through Definition Name:** Edge Definition,
 - in the **EntityID** row, select the value **GEN_ENTITY_ID**.

The results appear as follows:

Name	Type	Required	Multi-select	Method	Value
Domain	String	✓	✓	Pass data item value	 RI_DOMAIN
EntityID	Number	✓		Pass data item value	 GEN_ENTITY_ID

3. Save the changes.

Task 9. Test the REL-REL drill-through reports.

1. Run the report HTML.
2. Click **Technology**, review the report, and then close Cognos Viewer.
3. Click the number six in the **Technology** column (Asia Pac/Commercial Banking row).
4. Another Cognos Viewer window will open and display information for six risks in which the Domain column contains **Technology**.
 - Note that the **Domain** column contains a comma delimited list of all options selected for that risk record in the GRC Platform.
5. Close the Cognos Viewer window with the list report.
6. Click the number eleven in the **Operational** column and review the list report.
7. Close both Cognos Viewer windows.

Results:

You created a REL to REL set of drill-through reports.

Demo 3

DIM to REL Drill Through

<u>Risk Domain Summary</u>					
	Compliance	Operational	Technology	Financial Management	Internal Audit
<u>Asia Pac</u>	<u>5</u>	<u>21</u>	<u>9</u>	<u>8</u>	<u>6</u>
<u>EMEA</u>	<u>2</u>	<u>10</u>	<u>3</u>	<u>4</u>	<u>2</u>
<u>North America</u>	<u>2</u>	<u>10</u>	<u>3</u>	<u>4</u>	<u>2</u>



Demo 3: DIM to REL Drill Through

Purpose:

You will create two reports, one summary and one detail. The summary report will use the **DEFAULT_DIM** namespace and the detail report will use the **DEFAULT_REL** namespace. In the summary report you will add one drill-through definition to the detail report.

Portal: **http://optrainvm/ibmcognos**

User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

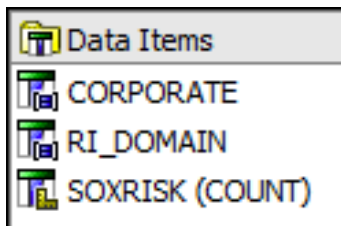
Task 1. Prepare the REL list detail report.

1. In Report Studio, open the **07-REL-REL Detail List** report.
2. Save the report as **07-DIM-REL Detail List** in **My Folders**.
3. Select the list container and change the name to **DIM-REL DT List**.
4. Save the changes.

Task 2. Populate the DIM crosstab query.

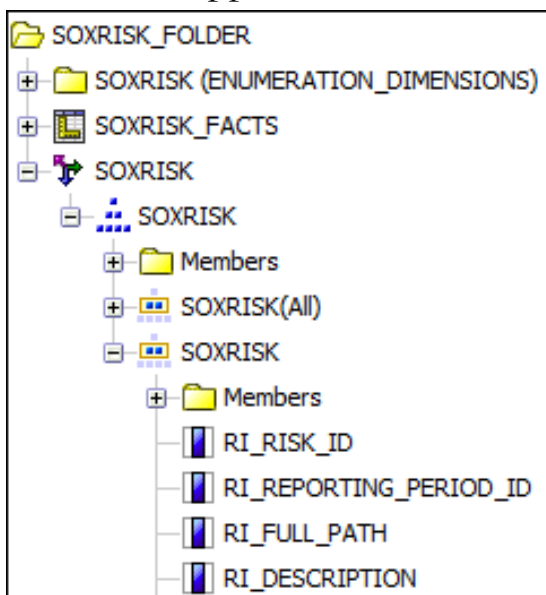
1. In Report Studio, start with a new crosstab report.
2. Navigate to the report's query and change the name to **Crosstab Query**.
3. In the Source tab, expand the **DEFAULT_DIM** namespace:
 - **OBJECT_TYPE_DIMENSIONS > CORPORATE_HIERARCHY > CORPORATE**,
 - **GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK (ENUMERATION_DIMENSIONS) > RI_DOMAIN > RI_DOMAIN**,
 - **GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK_FACTS > SOXRISK (COUNT)**.

4. Add the following:



5. From the toolbox, drag a **Filter** tool into the Detail Filters pane.
6. In the **Available Components** Source tab, expand DEFAULT_DIM > GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK > SOXRISK > SOXRISK.

The results appear as follows:



7. Create a current reporting period filter:
 - Drag **RI_REPORTING_PERIOD_ID** into the expression definition field and place the cursor at the end of the text,
 - Type **=-1** and click **OK**.

8. Create an Is Not Null filter:
 - Drag another filter tool into the Details Filter pane and locate the same SOXRISK hierarchy used above,
 - Drag **RI_RISK_ID** into the expression definition field and place the cursor at the end of the text,
 - Type **is not null** and click **OK**.
9. Save the report as **07-DIM-REL Summary Crosstab** in **My Folders**.

Task 3. Populate the crosstab container.

1. Navigate to report pages **Page1**.
2. Select the crosstab container and change the Name to **DIM-REL Summary Crosstab**.
3. Select the report page body and center it.
4. Set the page title to **Risk Domain Summary**.
5. Populate the crosstab container from the Data Items tab:
 - **Rows:** CORPORATE,
 - **Columns:** RI_DOMAIN,
 - **Measures:** SOXRISK (COUNT).
6. Run the report and review the report.
7. Close Cognos Viewer and save the changes.

Task 4. Format the crosstab report.

1. Select the top-left corner of the crosstab container. The Properties title bar will display **Crosstab Corner**.
2. Change the **Source Type** property to **Text**.
3. From the **Data** menu, select **Drill Behavior**:
 - Check the box for **Allow drill-up and drill-down**,
 - disable drill-up and drill-down for RI_DOMAIN,
 - click **OK**.
4. Save the changes.

Task 5. Configure the Measures drill-through definition.

1. Click any of the white cells in the Measures section of the crosstab container.
2. In the properties pane ancestor selector, select **Crosstab Fact Cells**.
3. Open the **Drill-Through Definitions** property.
4. Click the **New** button to add a drill-through definition.
5. Click the **Rename** button, enter **Measures Definition**, and click **OK**.
6. Click the browse button next to the **Report** field.
7. Navigate to **My Folders**, select **07-DIM-REL Detail List**, and click **Open**.
8. Check the box next to **Open in new window**.
9. Click the edit button under the **Parameters** pane.
10. Configure the following:
 - in the **Method** column select **Pass data item value** for both rows,
 - in the **Domain** row, select the value **RI_DOMAIN**,
 - in the **EntityID** row, select the value **CORPORATE**,
 - in the **EntityID** row, set **Property to Pass** to **Business Key**.

The results appear as follows:

Name	Type	Required	Multi-select	Method	Value	Property to Pass
Domain	String	✓	✓	Pass data item value	RI_DOMAIN	(Default)
EntityID	Number	✓		Pass data item value	CORPORATE	Business Key

11. Click **OK** twice to return to the crosstab container page.
12. Save the changes.

Task 6. Test the reports.

1. Run the report and click the number nine in the **Compliance** column.
2. Review the report and then close the Cognos Viewer window with the list report.
3. Click **Global Financial Services** to drill-down to the next entity level in the hierarchy.
4. Click the number six in the **Internal Audit** column and review the report.
5. Close both Cognos Viewer windows.

Results:

You created a DIM to REL set of drill-through reports.

Demo 4

DIM to DIM Drill Through

Risk Domain Detail

Location	Process	Risk	Owner	Domain	Rating
/Global Financial Services/North America/Retail Brokerage	RB-21	RB-21-Risk30193	orm	Technology	High
		RB-21-Risk30189	ORMdir	Technology	Low
	RB-28	RB-28-Risk31425	ORMdir	Technology	Low



Demo 4: DIM to DIM Drill Through

Purpose:

You will create two reports, one summary and one detail, using the **DEFAULT_DIM** namespace for both. In the summary report you will add one drill-through definition to the detail report.

Portal: <http://optrainvm/ibmcognos>

User/Password: **reportauthor/reportauthor**

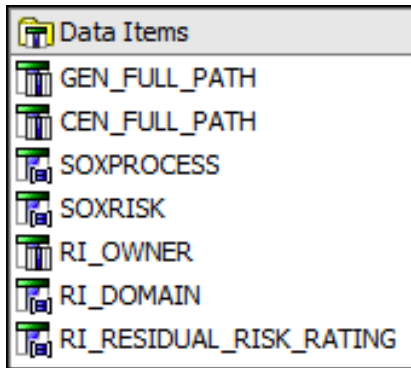
Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Populate the DIM list query.

1. In Report Studio, start with a new list report.
2. Navigate to the report's query and change the name to **List Query**.
3. In the Source tab, expand the DEFAULT_DIM namespace:
 - OBJECT_TYPE_DIMENSIONS > SOXBUSENTITY_GPC > SOXBUSENTITY_GPC > SOXBUSENTITY_GRANDPARENT,
 - OBJECT_TYPE_DIMENSIONS > SOXBUSENTITY_GPC > SOXBUSENTITY_GPC > SOXBUSENTITY_CHILD,
 - GRC_OBJECTS > SOXPROCESS_FOLDER > SOXPROCESS > SOXPROCESS,
 - GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK > SOXRISK,
 - GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK > SOXRISK > SOXRISK,
 - GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK (ENUMERATION_DIMENSIONS) > RI_DOMAIN,
 - GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK (ENUMERATION_DIMENSIONS) > RI_RESIDUAL_RISK_RATING.

4. Add the following:



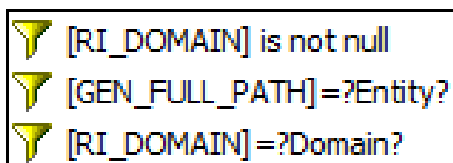
5. Edit the following data item label properties:

- **CEN_FULL_PATH**: Location,
- **SOXPROCESS**: Process,
- **SOXRISK**: Risk,
- **RI_OWNER**: Owner,
- **RI_DOMAIN**: Domain,
- **RI_RESIDUAL_RISK_RATING**: Rating.

6. Create a current reporting period filter:

- From the toolbox, drag a **Filter** tool into the Detail Filters pane.
- In the **Available Components** Source tab, expand GRC_OBJECTS > SOXRISK_FOLDER > SOXRISK > SOXRISK > SOXRISK.
- drag **RI_REPORTING_PERIOD_ID** into the expression definition field and place the cursor at the end of the text,
- type **=-1** and click **OK**.

7. Create three additional detail filters:



8. Save the report as **07-DIM-DIM Detail List** in **My Folders**.

Task 2. Populate the list container.



1. Navigate to report pages **Page1**.
2. Select the list container and change the Name to **DIM-DIM DT List**.
3. Select the report page body and center it.
4. Set the page title to **Risk Domain Detail**.
5. Populate the list container in the following order:
 - Location,
 - Process,
 - Risk,
 - Owner,
 - Domain,
 - Rating.
6. Group the following in order:
 - Location,
 - Process.
7. Save the changes.

Task 3. Prepare the DIM crosstab summary report.

1. In Report Studio, open the **07-DIM-REL Summary Crosstab** report.
2. Save the report as **07-DIM-DIM Summary Crosstab** in **My Folders**.
3. Navigate to the report's **Crosstab Query**.
4. Expand **DEFAULT_DIM > OBJECT_TYPE_DIMENSIONS > CORPORATE_HIERARCHY > CORPORATE_HIERARCHY > CORPORATE**.
5. Add **CORPORATE_FULL_PATH** to the query.
6. Return to the crosstab container.
7. Select the crosstab left edge (**CORPORATE**) and sort ascending.

8. Open the **Properties** property, select CORPORATE_FULL_PATH, and click **OK**.
9. Click any of the white cells in the Measures section of the crosstab container.
10. In the properties pane ancestor selector, select **Crosstab Fact Cells**.
11. Open the **Drill-Through Definitions** property.
12. Click the browse button next to the Report field.
13. Navigate to My Folders, select **07-DIM-DIM Detail List**, and click **Open**.
14. Check the box next to **Open in new window**.
15. Click the edit button under the **Parameters** pane.
16. Configure the following:
 - in the **Method** column select **Pass data item value** for both rows,
 - in the **Domain** row, select the value **RI_DOMAIN**,
 - in the **Domain** row, change the **Property to Pass** to **Member Unique Name**.
 - in the **Entity** row, select the value **CORPORATE_FULL_PATH**.

The results appear as follows:

Method	Value	Property to Pass
Pass data item value	 RI_DOMAIN	Member Unique Name
Pass data item value	 CORPORATE_FULL_PATH	(Default)

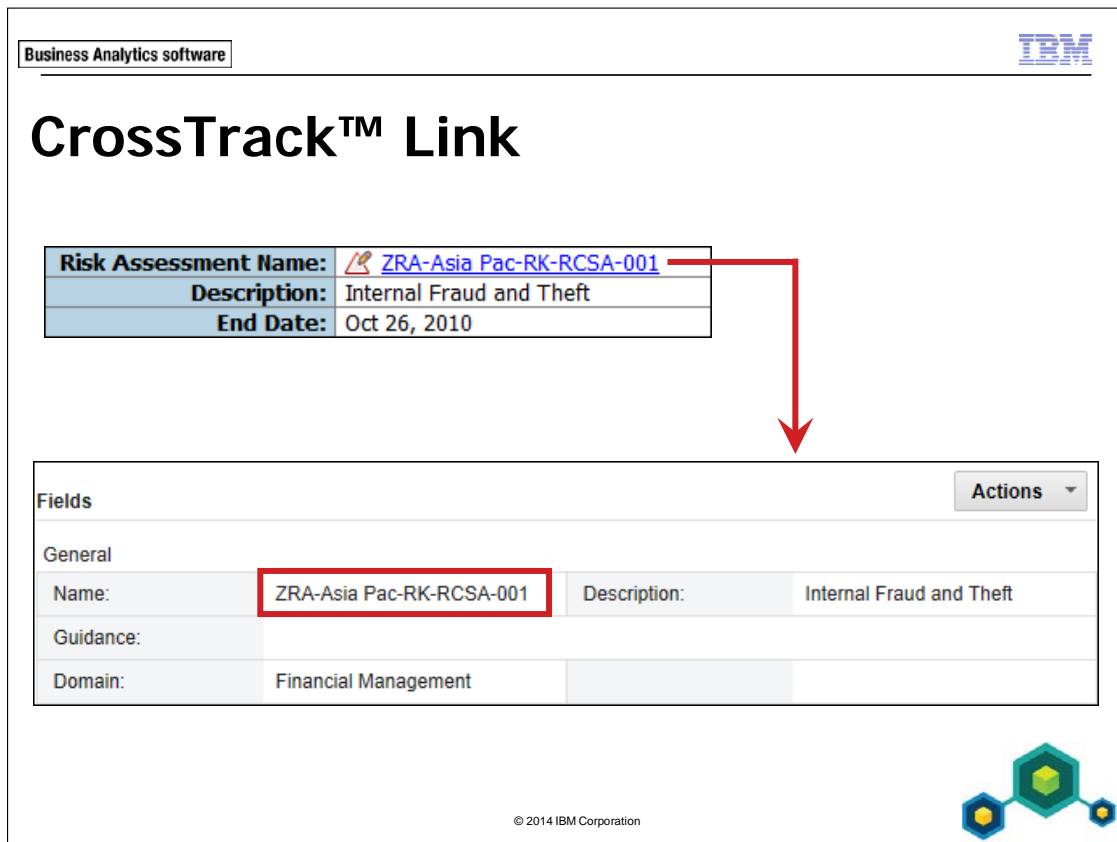
17. Click **OK** twice to return to the crosstab container page.
18. Save the changes.

Task 4. Test the DIM-DIM drill-through reports.

1. Run the report HTML.
 - Note that you do not have the ability to click one of the column titles for drill-through action. However, since the report starts with only one row of data, clicking a number here gives you the same information.
2. Click the number nine in the **Compliance** column and review the report.
 - Note that the **Domain** column displays only the domain member selected. It does not show all of the options selected for each risk record in the GRC Platform as the REL list report did.
3. Close Cognos Viewer for the list report.
4. Drill-down on **Global Financial Services** and then drill-down on **Asia Pac**.
5. Click the number three in the **Technology** column (Retail Banking row).
6. Review the report and then close both Cognos Viewer windows.


Results:

You created a DIM to DIM set of drill-through reports.




Business Analytics software IBM

CrossTrack™ Link

Risk Assessment Name:	 ZRA-Asia Pac-RK-RCSA-001
Description:	Internal Fraud and Theft
End Date:	Oct 26, 2010

↓

Fields		Actions	
General			
Name:	ZRA-Asia Pac-RK-RCSA-001	Description:	Internal Fraud and Theft
Guidance:			
Domain:	Financial Management		



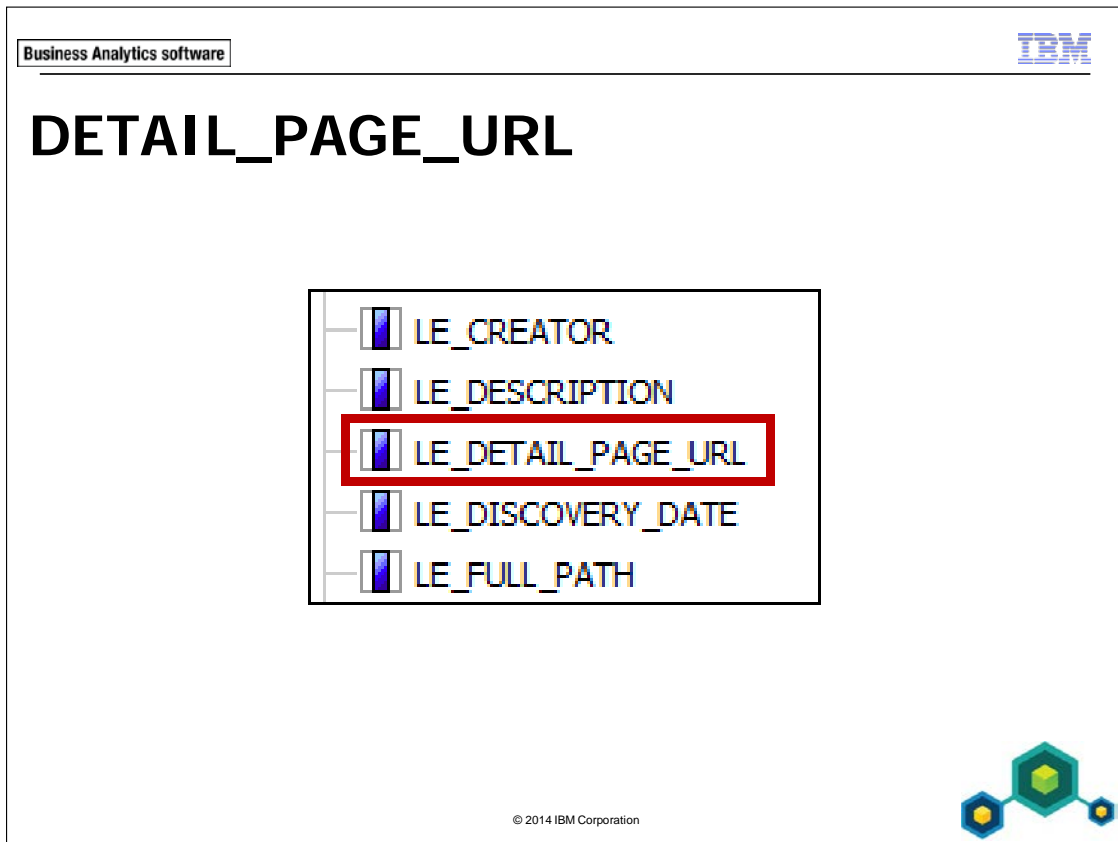
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A CrossTrack link is JavaScript that when applied to a record name in a report will open the selected record in the active GRC Platform Internet Explorer window.

The JavaScript supplied in the *IBM OpenPages GRC Platform Report Author's Guide* will accommodate up to two drill-through reports:

- Report #1 >> DT Report #2 >> DT Report #3.

If you need more than this you will need to contact an IBM OpenPages services team member for assistance.



Every primary and secondary object type query subject contains a query item for URL's for every record of that object type. You must declare this data item as a property of the list container to work properly.

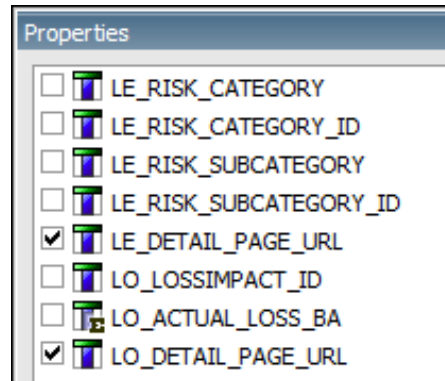
Every object type `DETAIL_PAGE_URL` query item has the same naming convention. The only change is in the prefix. In this illustration you are looking at the Loss Event (LE_) `DETAIL_PAGE_URL`. Here are some other sample prefixes you will find in the generated reporting framework:

- Risk: **RI_**
- Control: **CN_**
- Loss Impact: **LO_**
- Child Entity: **CEN_**
- Issue: **IS_**
- Mandate: **MD_**

Data Properties

- You declare data items in the **Properties | Data | Properties** page.

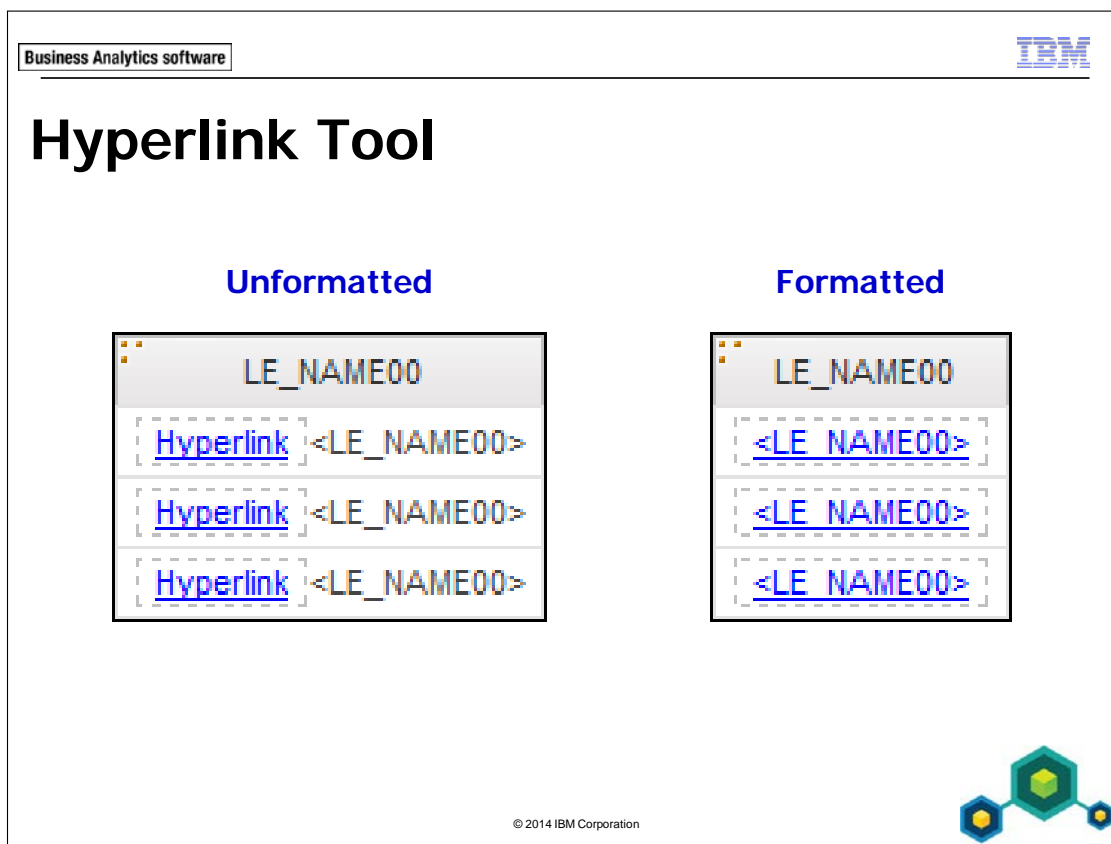
List Container



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To get to this property you need to select the entire list container.



The **Hyperlink** tool is added to the column in which you want the CrossTrack link to appear. The cell is then formatted to display the contents as blue underlined text.

Note that the Hyperlink tool is contained within its own cell (the dashed-line rectangle.) This is important because you will need to drag the **<LE_NAME00>** text item into the Hyperlink cell as part of the formatting process.

List Column Body Properties

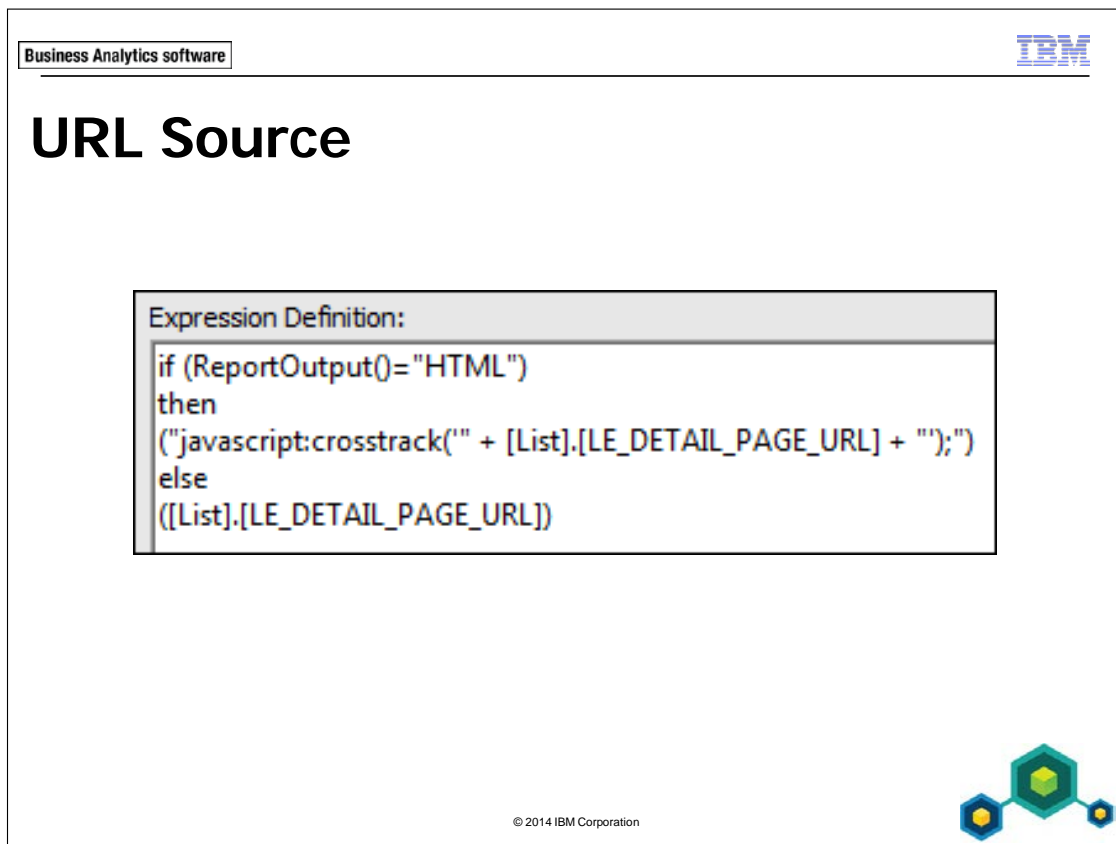
Properties - ▲ List Column Body	
[-] Text Source	
Source Type	Data Item Value
Data Item Value	LE_NAME00
[-] URL Source	
Source Type	Report Expression
Report Expression	if (ReportOutput()="HTML")then("javasc...
[-] Data	
Data Format	

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After formatting the cell contents, the properties for the column must be configured.

After selecting the column you will need to select **List Column Body** from the ancestor selector. Then you will have access to the **URL Source** section in the Properties pane.



JavaScript must be used as the URL Source in order for the hyperlink to work properly in HTML report output.

The JavaScript will be added to the **Report Expression** property under the **URL Source** section.

This is the first of two Java Scripts you need to add. This is an IF-THEN-ELSE construct that changes the URL Source only when the report output is displayed as HTML. If displayed as Excel or PDF the URL Source is simply the `DETAIL_PAGE_URL` data item.

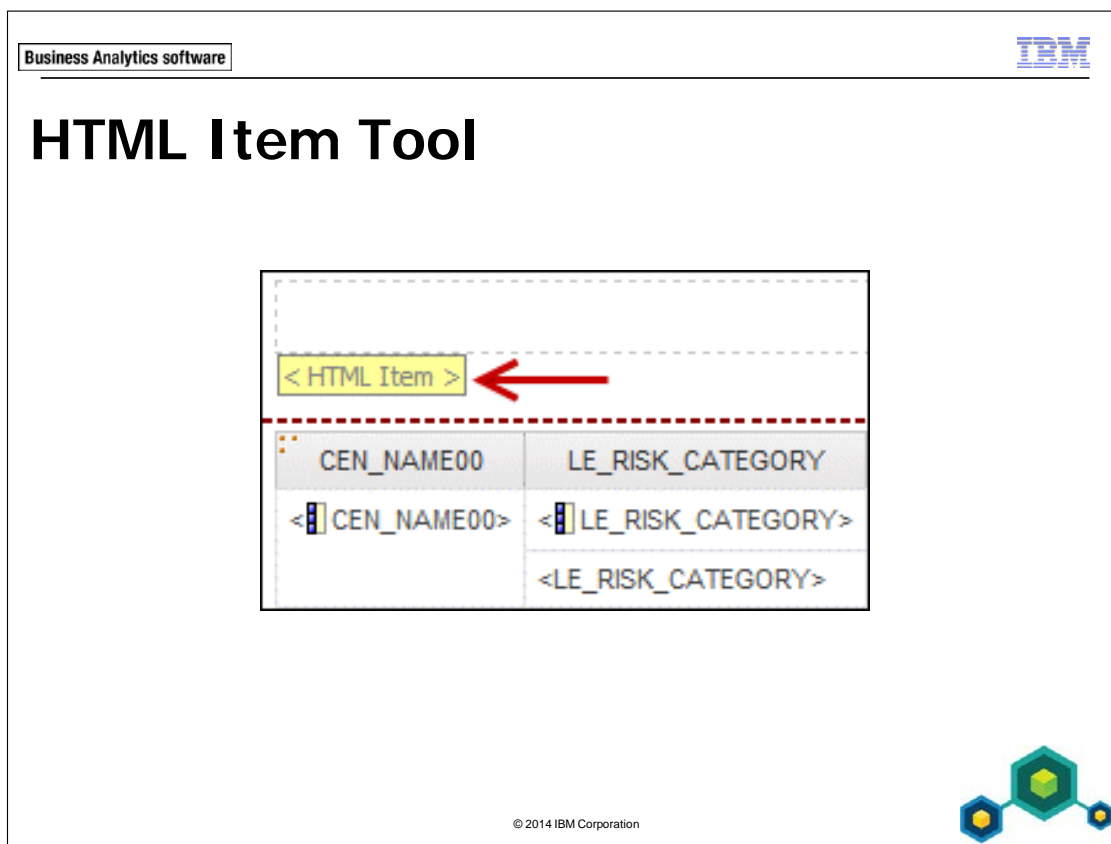
Returning to the GRC Platform

- The CrossTrack link should activate the existing OpenPages GRC Platform window and then display the record selected.
- To prevent the link from creating a second instance of the GRC Platform in the Cognos Report Viewer additional JavaScript needs to be used.

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It is important that the CrossTrack link open the GRC Platform record in the existing GRC Platform browser instance and not in the Cognos Report Viewer browser instance. The second JavaScript is used to locate the correct GRC Platform browser, especially when the CrossTrack link is in a second or third report of a drill-through.



The HTML Item tool is placed somewhere on the report page that will not alter the layout.

This tool will be used to hold the JavaScript that will determine which browser window contains the GRC Platform session.

Best practice is to put the HTML Item tool in the page header. When the report is run the HTML item will not be seen nor will it add vertical space to the output.

Demo 5

Add a CrossTrack Link

Risk Domain Detail					
Location	Process	Risk	Owner	Domain	Rating
/Global Financial Services/Asia Pac/Commercial Banking	CB-01	CB-01-001-Risk00189	ORMdir	Operational,Technology	Low
		CB-01-001-Risk00193	orm	Technology,Financial Management	Medium
		CB-01-004-Risk1425	orm	Compliance,Technology	Low
		CB-01-004-Risk1426	ORMdir	Operational,Technology	Low
	CB-41	CB-41-158-Risk1837	orm	Compliance,Technology	Low
		CB-41-158-Risk1842	ORMdir	Operational,Technology	Low
/Global Financial Services/Asia Pac/Retail Banking	RB-01	RB-01-Risk00189	ORMdir	Operational,Technology	Low
		RB-01-Risk00193	orm	Technology,Financial Management	High
	RB-08	RB-08-Risk1425	ORMdir	Compliance,Technology	Low



Demo 5: Add a CrossTrack Link

Purpose:

You will add two CrossTrack links to the REL-REL Detail List report. One for each process record and one for each risk record.

Portal: <http://optrainvm/ibmcognos>

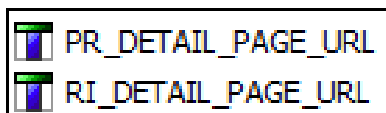
User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Prepare the REL list query.

1. In Report Studio, open the **07-REL-REL Detail List** report.
2. Navigate to the report's query and expand the DEFAULT_REL namespace.
3. Add two data items:
 - GRC_OBJECTS > SOXPROCESS,
 - GRC_OBJECTS > SOXRISK.



4. Navigate back to the list container.
5. Select the list container and open the **Properties** property.
6. Select both of the Detail Page URL data items and click **OK**.
7. In Windows Explorer, navigate to C:\Edopenpages\CrossTrack HTML.
8. Open **HTML_Item.txt** in a text editor (not Microsoft Word).
9. Select all of the text and copy it.
10. Return to Report Studio.

- From the toolbox, drag **HTML Item** into the report header (just below the block).

The results appear as follows:

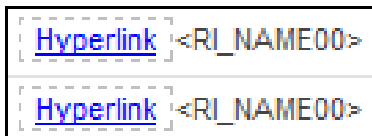


- Double-click the HTML Item and paste the text into the window.
- Click **OK**.
- From the toolbar, click the **Lock** icon to **Unlock** the report page.

Task 2. Add the Risk link.

- From the toolbox, drag **Hyperlink** into any of the white RI_NAME00 cells.

The results appear as follows:



NOTE: If your hyperlink appears to the right of RI_NAME00, that is okay.

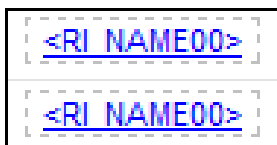
- Carefully drag RI_NAME00 into the Hyperlink cell.

The results appear as follows:



- Carefully select the word 'Hyperlink' and delete it.

The results appear as follows:



- Click RI_NAME00 and in the properties pane ancestor selector, select **Hyperlink**.
- Under **URL Source** in the properties pane, change the **Source Type** property to **Report Expression**.
- Open the **Report Expression** property.
- Minimize the Internet Explorer window and navigate to C:\Edopenpages\CrossTrack HTML.

8. Open **URL_ReportOutput.txt** in a text editor.
9. Select all of the text and copy it.
10. Return to Report Studio and paste the text into the expression definition pane.
11. There are two instances of [MAIN].[IS_DETAIL_PAGE_URL]:
 - delete one of the instances,
 - from the **Queries** tab, drag **RI_DETAIL_PAGE_URL** in its place,
 - repeat for the second instance.

The results appear as follows:

```
if (ReportOutput()="HTML")
then
("javascript:crosstrack('" + [List Query].[RI_DETAIL_PAGE_URL] + "');")
else
([List Query].[RI_DETAIL_PAGE_URL])
```

12. Click **OK** and save the changes.

Task 3. Add the Process link.

1. Repeat the steps in **Task 2** for the Process column except use the **PR_DETAIL_PAGE_URL** data item in the appropriate place.

The results appear as follows:

```
if (ReportOutput()="HTML")
then
("javascript:crosstrack('" + [List Query].[PR_DETAIL_PAGE_URL] + "');")
else
([List Query].[PR_DETAIL_PAGE_URL])
```

2. Lock the report page.
3. Save the changes.

Task 4. Test the links.

CAUTION: You cannot adequately test the links from within Cognos Report Studio. The best practice is to run the report from the IBM OpenPages GRC Platform and click the links. However, you can run the reports in Report Studio, point to the links (without clicking) and observe the status bar at the bottom of Internet Explorer.

1. In Report Studio, open the **07-REL-REL Summary Crosstab** report and run it HTML.
2. Click one of the numbers to drill through to the list report.
3. Hover your cursor over one of the Process links and look at the status bar at the bottom of Internet Explorer.

The results appear as follows:

```
javascript:crosstrack('http://OPTRAINVM:10108/openpages/view.resource.do?fileId=1501');
```

4. Hover your cursor over other Process and Risk links and observe the subtle changes in the status bar.
5. Close all Cognos Viewer windows.
6. Exit Report Studio, log off, and close all browser windows.

Results:

You have added two CrossTrack links to a list report.

Summary

- At the end of this module, you should be able to:
 - differentiate between drill-up and drill-down, drill-through, and CrossTrack links
 - identify the namespace needed to create reports utilizing drill-up and drill-down
 - create reports using each of the drill techniques

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IMPORTANT

Solutions for the demos in this module can be found in:

Public Folders > 1O202 Solution Reports > Module 07.



IBM OpenPages Functions

IBM OpenPages: Report Authoring (v7.0)

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Objectives

- At the end of this module, you should be able to:
 - locate the OpenPages Reporting functions
 - create Data Items using a function
 - filter reports using a function

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NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2) (J2258)* you may struggle completing the demonstrations in this module. Allow extra time to complete each demonstration.

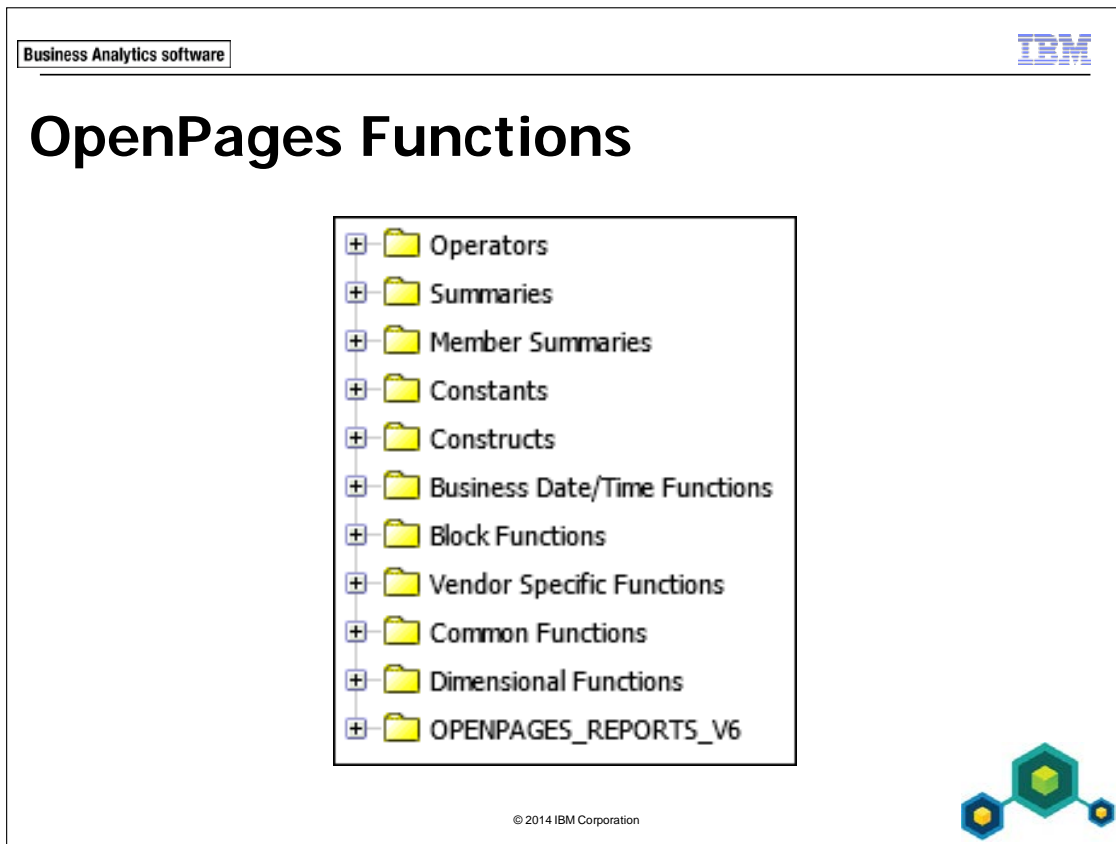
Introduction

- IBM OpenPages has created several reporting functions that can be used to retrieve data that were previously unavailable, difficult to retrieve, or degraded performance of the report when retrieved.
- Some functions are available in IBM OpenPages Platform software v4.0 and above.
- Some functions may not be available in the generated reporting framework but can still be used.

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In this module, you will learn to use four of the OpenPages reporting functions available to you. For documentation on all OpenPages reporting functions, please refer to the chapter "Using Predefined Database Functions" in *IBM OpenPages GRC Platform Version 7.0.0 Report Author's Guide*.



At press time, there is a known issue with IBM OpenPages GRC Platform V7.0 using the IBM DB2 database in which the **OPENPAGES_REPORTS_V6** folder does not appear in the **Functions** tab in IBM Cognos. These customers will need to type the OpenPages function expression; they will not be able to drag-and-drop the expression until this issue is resolved.

COUNT_TEXT_OCCURRENCE

- This function counts the occurrences of a specified text string within a given string.
- This function is useful when you need to parse a location or full path in the GRC Platform.
- Available in IBM OpenPages GRC Platform v4.0 and higher.

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This function is one of the easiest ones to use so it will be a good introduction to using functions in reports. The most frequent use of this function is to count the number of forward slashes (/) in an entity path. This will tell you how many leaf levels the path contains. For example the entity path “/GFS/Americas” is two leaf levels and contains two slashes. This can be useful when doing string manipulations with database functions.

Parameters

- The COUNT_TEXT_OCCURENCE function uses two required parameters:
 - P1: Text string to be evaluated,
 - P2: Text string to seek in P1.



P1 is normally in the form of a data item. P2 can be any text string but is normally very short in length.

Demo 1

COUNT_TEXT_OCCURRENCE

<u>Entity Slash Count</u>	
Location	Slash Count
/Global Financial Services	1
/Global Financial Services/Asia Pac	2
/Global Financial Services/Asia Pac/Commercial Banking	3
/Global Financial Services/Asia Pac/Corporate Finance	3
/Global Financial Services/Asia Pac/Retail Banking	3

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IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: COUNT_TEXT_OCCURENCE

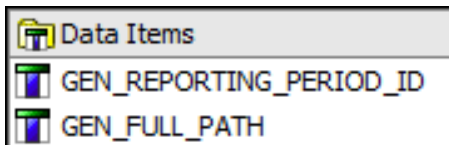
Purpose:

Create a report using the OpenPages function that counts the number of times a character or string appears in a given string. You will count the number of forward slashes in an entity path and display the results in a simple list report.

Portal: <http://optrainvm/ibmcognos>
 User/Password: **reportauthor/reportauthor**
 Studio: **Report Studio**
 Package: **OPENPAGES_REPORTS_V6**

Task 1. Populate the list query.

1. In Report Studio, start with a new list report.
2. Navigate to **Query1**.
3. Rename the query to **List Query**.
4. Expand the DEFAULT_REL namespace:
 - DEFAULT_REL > GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS
5. Add the following to the query:



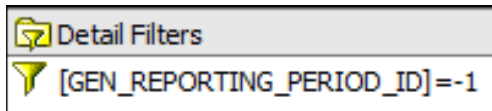
6. Change the **Label** property for GEN_FULL_PATH to **Location**.
7. Create the data item that will count the slashes in the entity path:
 - In the **Content Pane**, select the **Toolbox** tab and drag a **Data Item**, to the **Data Items** pane.
 - select the **Functions** tab under **Available Components**,
 - create the expression and click **OK**.

The results appear as follows:

```
"OP_UTILITIES.COUNT_TEXT_OCCURENCE" (
[GEN_FULL_PATH],
'/'
)
```

8. Change the following properties for the new data item:
 - **Name:** Slash Count,
 - **Aggregate Function:** None,
 - **Rollup Aggregate Function:** None.
9. Create a Detail Filter to scope the report on the current reporting period.

The results appear as follows:



Task 2. Populate the list container.

1. Navigate to the list container and select the List.
2. Change the name to **Slash Count List**.
3. Select the report page body and center it.
4. Set the page title to **Entity Slash Count**.
5. Add the following data items to the list container:
 - GEN_FULL_PATH,
 - slash count.
6. Sort the Location column ascending.
7. Run the report HTML, test and validate.
8. Save the report as **08-Slash Count** in **My Folders**.

Results:

You have created a report using one of the OpenPages functions.

Actor Information

- In the GRC Platform, user and group information, referred to as **actor** information, can appear as:
 - a User ID (for example ORMAdmin),
 - an internal identifier number (for example 102).

Process	PR_CHECKED_IN_BY	Checked in By	PR_PROCESS_OWNER	Owner
RB-21	102	ORM Administrator	ORMdir	ORM Director
RB-22	102	ORM Administrator	ORMdir	ORM Director
RB-27	102	ORM Administrator	ORMadmin	ORM Administrator
RB-28	102	ORM Administrator	orm	ORM User
RB-29	102	ORM Administrator	orm	ORM User

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In the illustration, the **Owner** column is displaying actor information from a User ID. The **Checked in By** column is displaying actor information from an internal identifier number.

Most people running a report want to see the first and last names of the user assigned to various actor fields.

GET_DISPLAY_NAME

- This function retrieves the first name, last name, and/or email address for a given actor .
- It uses one optional and two required parameters:
 - P1: Actor query item you want to convert,
 - P2: This is always the word **NULL** without quotes,
 - P3: The text string you want displayed using one or more of the three supported variables.

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P1 is typically in the form of a data item such as `CREATED_BY` or an owner field. However, you can specify the user ID of the person running the report if you want to display this information in the header of a report.

You will always specify all three parameters when using this function.

Oracle systems: Use this function when the actor query item returns a number or user identifier.

DB2 systems: Use this function only when the actor query item returns a user identifier.

GET_DISPLAY_NAME_BY_ACTOR_ID

- This function applies to IBM DB2 systems only.
- Returns user or group formatted display by using the internal actor identifier number.
- Available in IBM OpenPages GRC Platform v4.0 and higher.



Use this function if your GRC Platform system uses IBM DB2 and the actor query item returns a number, for example the `CREATED_BY` field.

GET_DISPLAY_NAME Variables

- P3 is a quoted text string using one or more of the following variables:
 - %FN; = First name
 - %LN; = Last name
 - %EM; = Email address
- Available in IBM OpenPages GRC Platform v4.0 and higher.

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The **GET_DISPLAY_NAME** function can be configured to return the three listed items in any text string. For example, the following text string entered for parameter 3 will return a complete sentence containing the first name, last name and email address of an actor:

‘The email address for %FN; %LN; is %EM;.’

Demo 2

GET_DISPLAY_NAME

Process	PR_CHECKED_IN_BY	Checked in By	PR_PROCESS_OWNER	Owner
RB-21	102	ORM Administrator	ORMdir	ORM Director
RB-22	102	ORM Administrator	ORMdir	ORM Director
RB-27	102	ORM Administrator	ORMadmin	ORM Administrator
RB-28	102	ORM Administrator	orm	ORM User
RB-29	102	ORM Administrator	orm	ORM User

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Syntax

“OP_ACTOR_MGR.GET_DISPLAY_NAME” (P1,P2,P3)

Demo 2: GET_DISPLAY_NAME

Purpose:

In this demonstration you will convert actor internal identifiers and user ID's to first and last names and display the results in a list report.

Portal: <http://optrainvm/ibmcognos>

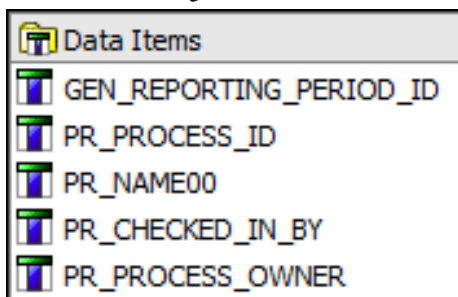
User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Populate the list query.

1. In Report Studio, start with a new list report.
2. Navigate to **Query1**.
3. Rename the query to **List Query**.
4. Add the following to the query:
 - GRC_OBJECTS > SOXBUSENTITY_FOLDER > ID_FIELDS
 - GRC_OBJECTS > SOXPROCESS > ID_FIELDS.



5. Change the **Label** property of PR_NAME00 to **Process**.
6. Create the current reporting period filter:
 - drag GEN_REPORTING_PERIOD_ID into the Detail Filters pane,
 - place the cursor at the end of the expression and type **=-1**,
 - click **OK**.

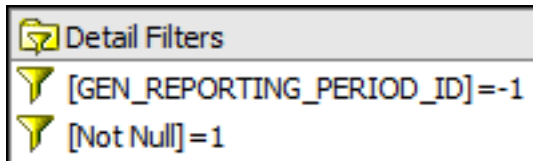
7. Create an optimized Is Not Null filter:

- add a new data item,
- change the name to **Not Null**,
- create the following expression:

```
if([PR_PROCESS_ID] is not null)
then(1)
else(0)
```

- click **OK**,
- change the aggregate function properties to **None**,
- drag **Not Null** into the Detail Filters pane and place the cursor at the end of the expression,
- type **=1** and click **OK**.

The results appear as follows:



8. In Query Explorer, right-click **List Query**, and select **View Tabular Data** to validate the set of returned data.
9. Note that CHECKED_IN_BY is a number and PROCESS_OWNER is a user ID.
10. Close Cognos Viewer.

Task 2. Convert actor user ID.

1. Add a data item:
 - **Function:** OP_ACTOR_MGR.GET_DISPLAY_NAME,
 - **Parameter #1:** PR_PROCESS OWNER,
 - **Parameter #2:** null,
 - **Parameter #3:** '%FN; %LN;'

The results appear as follows:

```
"OP_ACTOR_MGR.GET_DISPLAY_NAME" (
[PR_PROCESS_OWNER],
null,
'%FN; %LN;'
)
```

2. Change the name to **Owner** and aggregate functions to **None**.

Task 3. Convert internal actor identifier number.

1. Add a data item.
2. Add an **OpenPages Reporting Function**:
 - **Function**: OP_ACTOR_MGR.GET_DISPLAY_NAME_BY_ACTOR_ID,
 - **Parameter #1**: PR_CHECKED_IN_BY,
 - **Parameter #2**: null,
 - **Parameter #3**: '%FN; %LN;'

The results appear as follows:

```
"OP_ACTOR_MGR.GET_DISPLAY_NAME_BY_ACTOR_ID" (
  [PR_CHECKED_IN_BY],
  null,
  '%FN; %LN;'
)
```

3. Change the name property to **Checked in By**.
 4. Change the two aggregate functions to **None**.
- NOTE: If this is a class using the customer's GRC Platform and it is an Oracle system, substitute the same OpenPages function used in Task 2 above.

Task 4. Populate the list container.

1. Navigate to the list container.
2. Select the List and change the name to **Get Display Name List**.
3. Select the report page body and center it.
4. Set the page title to **Actor Names**.
5. Add the following data items to the list container **in order**:
 - Process name,
 - PR_CHECKED_IN_BY,
 - Checked in By,
 - PR_PROCESS_OWNER
 - Owner.
6. Sort the process column ascending.
7. Run the report HTML, test and validate.
8. Save the report as **08-Get Display Name** in **My Folders**..

Results:

A report was created that displays the first and last names for both an actor internal identifier and an actor user ID.

IS_REL_PARENT_CHILD

- This function identifies whether a relationship (either direct or indirect) exists between any two object type records.
- This relationship can further be defined as primary only or as primary or non-primary.

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A **Direct** relationship is when the two records in question have a parent | child association with no intervening records. For example a risk record to a control record.

An **Indirect** relationship is when the two records in question have one or more records between them in the hierarchy path. For example a process record to a control record in which there is a risk record between the two in the same hierarchy.

A **Primary** relationship is when all of the associations in the hierarchy between the two records in question are designated as primary.

A **Non-primary** relationship is when one or more associations in the hierarchy between the two records in question is not primary.

IS_REL_PARENT_CHILD (cont'd)

- This function is useful:
 - to identify primary relationships up through a given hierarchy,
 - when creating joins in secondary object type reports, for example Issue reports.
- Available in IBM OpenPages GRC Platform v4.0 and higher.

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This function does not discriminate between direct or indirect relationships, only primary and non-primary.

Parameters

- The IS_REL_PARENT_CHILD function uses three required and four optional parameters.
- You will normally only need to use the first four:
 - P1: Parent object type identifier,
 - P2: Child object type identifier,
 - P3: Reporting period identifier,
 - P4: Indicator for the type of parent-child relationship to look for between the two object type identifiers.

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If your report contains a reporting period ID prompt you must use that prompt parameter variable for parameter 3. For example, if your reporting period ID prompt uses the parameter RP_ID then you would use ?RP_ID? in parameter 3 in your function.

The indicator used in parameter 4 is one of the following options:

- ‘Y’ - checks for a primary-only relationship between object type identifiers,
- ‘N’ - checks for any relationship between object type identifiers. (Default.)

Demo 3

IS_REL_PARENT_CHILD

<u>Relationship Analysis</u>			
Entity	Control	Is Related	Is Primary
Commercial Banking	Control 12345	Y	N
	Control 12346	Y	N
	Control 12345	Y	Y
	Control 12346	Y	Y
	Control 12347	Y	Y
	Control 12348	Y	Y

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Syntax

"OP_RPS_AUX.IS_REL_PARENT_CHILD"(P1,P2,P3,P4,P5,P6,P7)

Demo 3: IS_REL_PARENT_CHILD

Purpose:

In this demonstration you will add information about direct and primary relationships between an entity and control records in each row of data. You will also learn how to use OpenPages Reporting functions in detail filters.

Portal: <http://optrainvm/ibmcognos>

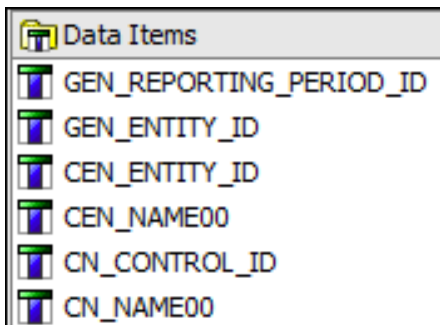
User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Populate the list query.

1. In Report Studio, start with a new list report.
2. Navigate to **Query1**.
3. Rename the query to **List Query**.
4. Add the following to the query:
 - GRC_OBJECTS > SOXCONTROL > ID_FIELDS.
 - GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS



5. Change the following **Label** properties:
 - **CEN_NAME00**: Entity,
 - **CN_NAME00**: Control.

Task 2. Add Is Related data item.

1. Add a data item:

- **Function:** OP_RPS_AUX.IS_REL_PARENT_CHILD,
- **Parameter #1:** parent object type identifier,
- **Parameter #2:** child object type identifier,
- **Parameter #3:** reporting period used in report,
- **Parameter #4:** setting to determine any relationship exists,

The results appear as follows:

```
"OP_RPS_AUX.IS_REL_PARENT_CHILD" (
[CEN_ENTITY_ID],
[CN_CONTROL_ID],
-1,
'N'
)
```

2. Change the name to **Is Related** and aggregate functions to **None**.

Task 3. Add Is Primary data item.

1. Add a data item:

- **Function:** OP_RPS_AUX.IS_REL_PARENT_CHILD,
- **Parameter #1:** parent object type identifier,
- **Parameter #2:** child object type identifier,
- **Parameter #3:** reporting period used in report,
- **Parameter #4:** setting to determine primary only relationship exists,

The results appear as follows:

```
"OP_RPS_AUX.IS_REL_PARENT_CHILD" (
[CEN_ENTITY_ID],
[CN_CONTROL_ID],
-1,
'Y'
)
```

2. Change the name to **Is Primary** and aggregate functions to **None**.

Task 4. Create detail filters.

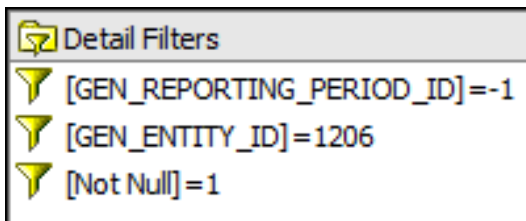
1. Create a data item that will be used to filter out rows with no control records:

Results appear as follows:

```
if([CN_CONTROL_ID] is not null)
then (1)
else (0)
```

2. Name the data item **Not Null** and change the aggregate function properties to **None**.
3. Create the following detail filters:
 - current reporting period,
 - set the starting entity to /Asia Pac/Commercial Banking (1206),
 - remove rows with no control records (use an optimized data item/filter combination).

Results appear as follows:



4. Use **View Tabular Data** to test and validate the query.
5. Save the report as **08-Parent Child Relationship**.

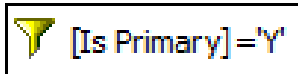
Task 5. Populate the list container.

1. Navigate to the list container and select it.
2. Name the list **Related and Primary List**.
3. Select the report page body and center it.
4. Set the page title to **Relationship Analysis**.
5. Add the following data items to the list container in order:
 - Entity,
 - Control,
 - Is Related,
 - Is Primary.
6. Group the entity column.
7. Run the report HTML, test and validate.
8. Save the changes.

Task 6. Display only primary relationships.

The next tasks demonstrate how you can use OpenPages Reporting functions to filter data.

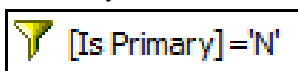
1. Create a detail filter using the **Is Primary** data item:



2. Run the report HTML, test and validate.
3. Do NOT save the changes.

Task 7. Display only non-primary relationships.

1. Modify the **Is Primary** detail filter:



2. Run the report HTML, test and validate.
3. Do NOT save the changes.

Results:

You created a report showing the relationship between entity and control records. You also experimented with filters based upon OpenPages Reporting functions.

GET_DIRECT_PRIM_PRNT_VALUE

- This function returns the value of an attribute of a primary parent record.
- You can use this to directly look up a limited set of attribute values without having to query through the entire hierarchy.
 - This can significantly improve report performance.
- Available in IBM OpenPages GRC Platform v6.0 and higher.



Parameters

- The GET_DIRECT_PRIM_PRNT_VALUE function uses five required parameters:
 - P1: Child object type identifier,
 - P2: Reporting period identifier,
 - P3: Actor identifier of the user running the report,
 - P4: Property name of the data item to be displayed in the report,
 - P5: Locale identifier of the user running the report.

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P3 is needed to determine the access security of the user running the report. This will prevent the user from seeing data they are not allowed to see.

P5 is needed for use in any language conditional formatting used in the report to display the correct language text translation.

P4 Options

PROPERTY NAME	DESCRIPTION
RESOURCE_ID	The parent record ID
RESOURCE_NAME	The parent record name
RESOURCE_NAME_RAW	The entire parent record name with internal IDs
RESOURCE_LOCATION	The parent folder location
RESOURCE_LOCATION_RAW	The parent folder location with internal IDs
RESOURCE_URL	The parent detail page URL
OBJECT_TYPE_ID	The parent object type ID
OBJECT_TYPE_NAME_SYS	The parent object type system name
OBJECT_TYPE_NAME_I18N	The parent object type system name localized

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There are nine property names available for use in P4. Please refer to the *IBM OpenPages GRC Platform Version 7.0.0 Report Author's Guide* for complete details.

Demo 4

GET_DIRECT_PRIM_PRNT_VALUE

Relationship Analysis						
Entity	Risk	Control	Is Related	Is Primary	Parent Type	Parent Location
Commercial Banking	CB-01-001-Risk00189	CTL-04-03-03-01	Y	Y	SOXRisk	/Global Financial Services/Asia Pac/Commercial Banking/CB-01-001-Risk00189
		CTL-04-03-03-02	Y	Y	SOXRisk	/Global Financial Services/Asia Pac/Commercial Banking/CB-01-001-Risk00189
		CTL-04-03-03-03	Y	Y	SOXRisk	/Global Financial Services/Asia Pac/Commercial Banking/CB-01-001-Risk00189
		Control 12345	Y	N	SOXRisk	/Global Financial Services/Asia Pac/Retail Banking/RB-07-Risk1423

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Syntax

"OP_RPS_AUX.GET_DIRECT_PRIM_PRNT_VALUE"(P1,P2,P3,P4,P5)

Demo 4: GET_DIRECT_PRIM_PRNT_VALUE

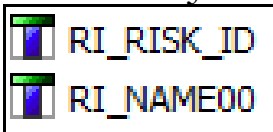
Purpose:

The use of this function may help remove any confusion there may be with some of the non-primary relationships displayed in the previous report. You will add more columns, one of which displays the location of the parent record.

Portal: <http://optrainvm/ibmcognos>
 User/Password: **reportauthor/reportauthor**
 Studio: **Report Studio**
 Package: **OPENPAGES_REPORTS_V6**

Task 1. Add the risk name column.

1. In Report Studio, open the **08-Parent Child Relationship** report in **My Folders**.
2. Save the report as **08-Get Parent Values** in **My Folders**.
3. Navigate to the List Query.
4. Add the following to the query:
 - GRC_OBJECTS > SOXRISK > ID_FIELDS.



5. Change the risk name Label to **Risk**.
6. Navigate to the list container and add the Risk column to the list container after the Entity column.
7. Group the risk name column.
8. Run the report HTML, test and validate.
9. Save the changes.

Task 2. Add Parent Type data item.

Refer to **P4 Options** slide or the Report Author's Guide for guidance on the parameters.

1. Navigate to the report's query.
2. From the **Toolbox** add a new data item:
 - **Function:** OP_RPS_AUX.GET_DIRECT_PRIM_PRNT_VALUE,
 - **Parameter #1:** child object type identifier,
 - **Parameter #2:** reporting period used in report,
 - **Parameter #3:** user's OpenPages log in ID,
 - **Parameter #4:** property name for the localized parent object name,
 - **Parameter #5:** user's OpenPages locale setting.

The results appear as follows:

```
"OP_RPS_AUX.GET_DIRECT_PRIM_PRNT_VALUE" (
[CN_CONTROL_ID],
-1,
#$account.parameters.openPagesUserId#,
'OBJECT_TYPE_NAME_I18N',
#$account.parameters.openPagesLocaleId#
)
```

3. Change the name to **Parent Type** and aggregation properties to **None**.
4. Navigate to the list container and add the new data item to the end of the list container.
5. Run the report HTML, test and validate.
6. Save the changes.

Task 3. Add Parent Location data item.

1. Navigate to the report's query.
2. From the **Toolbox** add a new data item:
 - **Function:** OP_RPS_AUX.GET_DIRECT_PRIM_PRNT_VALUE,
 - **Parameter #1:** child object type identifier,
 - **Parameter #2:** reporting period used in report,
 - **Parameter #3:** user's OpenPages log in ID,
 - **Parameter #4:** property name for the parent folder location,
 - **Parameter #5:** user's OpenPages locale setting.

The results appear as follows:

```
"OP_RPS_AUX.GET_DIRECT_PRIM_PRNT_VALUE" (
  [CN_CONTROL_ID],
  -1,
  #${account}.parameters.openPagesUserId#,
  'RESOURCE_LOCATION',
  #${account}.parameters.openPagesLocaleId#
)
```

3. Change the name to **Parent Location** and aggregation properties to **None**.
4. Navigate to the list container and add the new data item to the end of the list container.
5. Run the report HTML, test and validate.
6. Save the changes.
7. Exit Report Studio, log off, and close all browser windows.

Results:

You added a column showing the object type of the parent record and another column displaying the location of the parent object which helped clarify those parent-child relationships that are not primary.

Summary

- At the end of this module, you should be able to:
 - locate the OpenPages Reporting functions
 - create Data Items using a function
 - filter reports using a function



IMPORTANT

Solutions for the demos in this module can be found in:
Public Folders > 1O202 Solution Reports > Module 08.



Query Operations

IBM OpenPages: Report Authoring (v7.0)

Business Analytics software

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Objectives

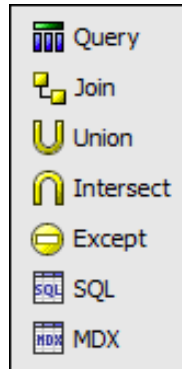
- At the end of this module, you should be able to:
 - list the IBM Cognos Query Operations
 - understand which query operations have limited use with IBM OpenPages GRC Platform data

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NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2) (J2258)* you may struggle completing the demonstrations in this module. Allow extra time to complete each demonstration.

Introduction

- IBM Cognos Report Studio has a variety of query operations available for use in authoring reports.
- Each operation offers a unique result that can be useful in authoring GRC Platform reports.



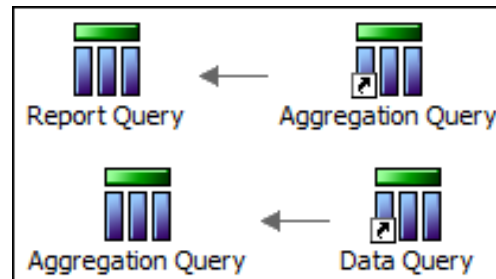
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Not all operations are useful when authoring GRC Platform reports.

Query

- The **Query** operation is used to retrieve data from the database, perform filtering and aggregations prior to displaying in a report container.



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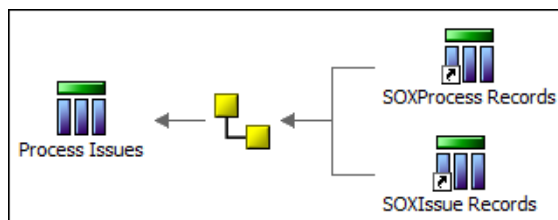


You can create a hierarchy of queries in which the right-most query is used to retrieve filtered rows of data from the database and the parent queries are used to provide sophisticated aggregations.

The Query operation is the one most frequently used, and is used with the other operations.

Join

- The **Join** operation is used, with OpenPages GRC Platform data, to join two generated query subjects, for example SOXPROCESS and SOXISSUE, to create a data set that is then displayed in a report container.



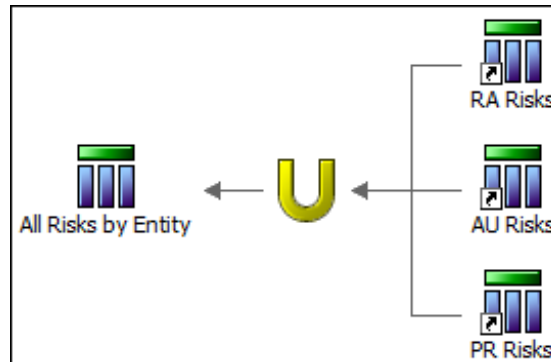
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Refer to the module **Secondary Object Type Reports**, in this training course, for examples of using the join operation.

Union

- The **Union** operation combines the results of two or more queries into a single result set that can then be displayed in the report container.



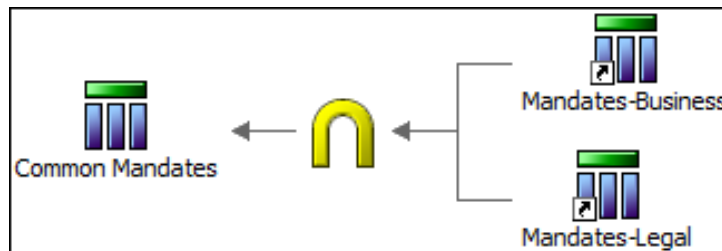
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If you need to use two or more namespaces to retrieve the data required for a report, this is the operation to use.

Intersect

- The **Intersect** operation results in a query that contains rows common between all queries.



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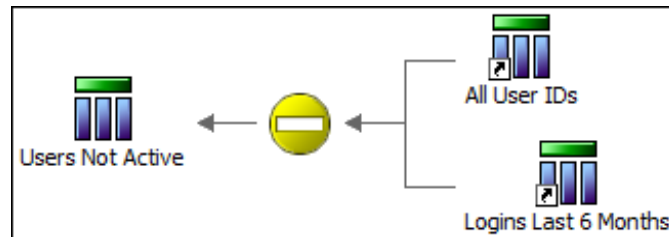
The rows must be identical to appear in the result set.

Intersect is basically a logical AND operation.

The Intersect operation will have limited use with the GRC Platform data.

Except

- The **Except** operation results in a query that contains rows from the first query that are not in the remaining queries.



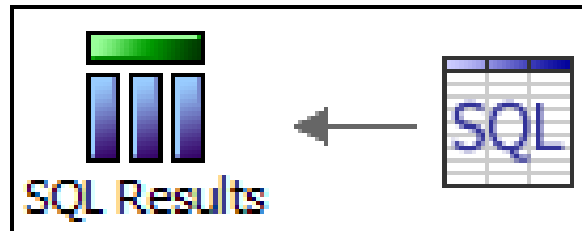
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The Except operation will have limited use with the GRC Platform data.

SQL

- The **SQL** operation can be used to add custom SQL to your report.



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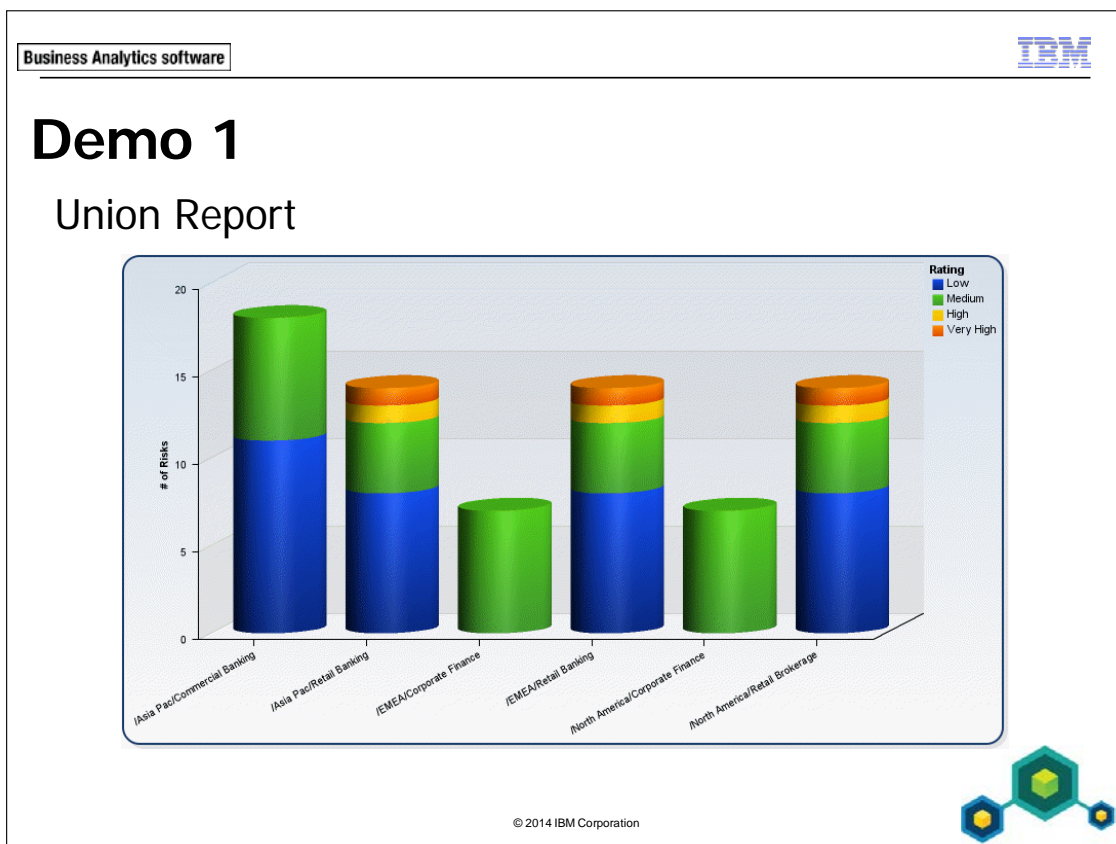


This operation should be used only by a skilled SQL programmer. Learning to use the SQL operation is beyond the scope of this course. Please contact IBM OpenPages Services if you wish to learn more about creating your own SQL operation or Custom Query Subjects.

MDX

- The **MDX** operation is not to be used with the IBM OpenPages GRC Platform system.





IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: Union Report

Purpose:

The Risk Management team has requested a report on all risks for a given entity hierarchy. In the GRC Platform, your company business requirements have two hierarchies with risks. One is Entity > Process > Risk and another is Entity > Risk Assessment > Risk. This requires the use of two namespaces to account for all potential risk records. You will use the union query operation to meet the requirements of the report.

Portal: <http://optrainvm/ibmcognos>

User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

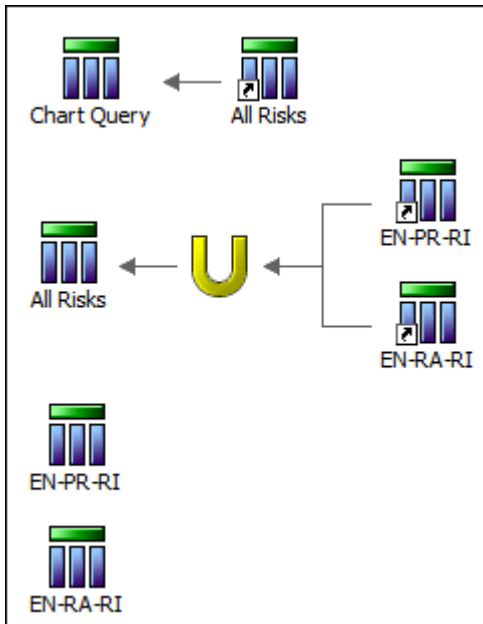
Task 1. Setup the query hierarchy.

1. In Report Studio, start with a new **Stacked Cylinder with 3-D Effects** chart report.
2. Select the chart container. The Properties pane should display **Combination Chart** in the title bar.
3. Change the **Name** to **Union Chart**.
4. In the Query Explorer, navigate to the **Queries** folder.
5. Click on **Query1** and change the name to **Chart Query**.
6. From the toolbox, drag a new query to the right of Chart Query and change the name to **All Risks**.
7. From the toolbox, drag the Union tool to the right of **All Risks**.
8. Add a new query to the top placeholder and format the following:
 - **Name:** EN-PR-RI
 - **Auto Group & Summarize:** No

9. Add a new query to the bottom placeholder and format the following:

- **Name:** EN-RA-RI
- **Auto Group & Summarize:** No

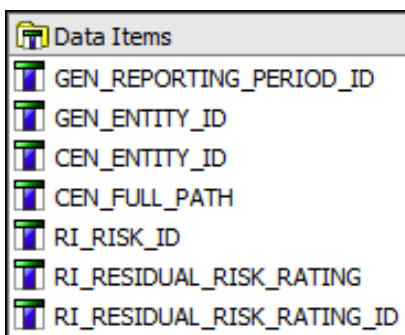
The results appear as follows:



10. Save the report as **09-Union Report** in **My Folders**.

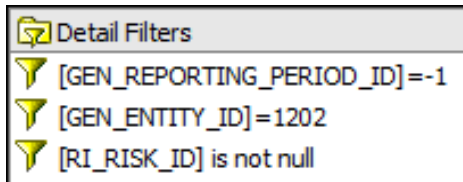
Task 2. Populate EN-PR-RI and EN-RA-RI queries.

- Navigate to the EN-PR-RI query and add the following query items from **DEFAULT_REL** namespace:
 - GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS,
 - GRC_OBJECTS > SOXRISK > ID_FIELDS,
 - GRC_OBJECTS > SOXRISK > ENUMERATION_FIELDS > RESIDUAL_RISK_RATING (ENUMERATION).



2. Add the following detail filters:
 - current reporting period,
 - /Global Financial Services starting entity (1202),
 - Is Not Null filter using Risk identifier.

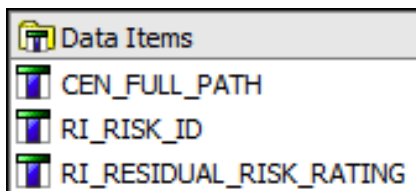
The results appear as follows:



3. In the **Query Explorer**, right-click the EN-PR-RI query, select **View Tabular Data**, and validate results.
4. Navigate to the EN-RA-RI query and using **RA1_REL** namespace, repeat the above steps. Make sure the data items appear in the same order as above. The union query operation requires this.
5. Save the changes.

Task 3. Populate All Risks query.

1. Navigate to the **All Risks** query.
2. From the **Union1** source, add the following to the Data Items pane:



3. Change the aggregate functions properties to **None** for each data item.
4. Create a data item that removes **/Global Financial Services** from the entity location:
 - from the toolbox, add a new data item to the Data Items pane,
 - **Name:** Short Name,
 - create the following expression, using **Union1** in the **Source** tab, and click **OK**:

```
substr([Union1].[CEN_FULL_PATH],27)
```

- change the aggregate functions properties to **None**.

5. Create a data item that will be used to sort the chart legend:
 - from the toolbox, add a new data item to the Data Items pane,
 - **Name:** Sort Legend,
 - create the following expression, using **Union1** in the **Source** tab, and click **OK**:

```

case
  when ([Union1].[RI_RESIDUAL_RISK_RATING_ID]+0=
    # $SOXRISK_RESIDUAL_RISK_RATING_DEFINITION_MAP{'Low'}#)
    then (1)
  when ([Union1].[RI_RESIDUAL_RISK_RATING_ID]+0=
    # $SOXRISK_RESIDUAL_RISK_RATING_DEFINITION_MAP{'Medium'}#)
    then (2)
  when ([Union1].[RI_RESIDUAL_RISK_RATING_ID]+0=
    # $SOXRISK_RESIDUAL_RISK_RATING_DEFINITION_MAP{'High'}#)
    then (3)
  when ([Union1].[RI_RESIDUAL_RISK_RATING_ID]+0=
    # $SOXRISK_RESIDUAL_RISK_RATING_DEFINITION_MAP{'Very High'}#)
    then (4)
end

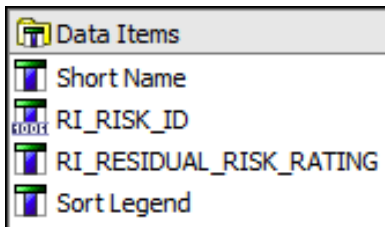
```

NOTE: Each WHEN statement is a single line.

- change the aggregate functions properties to **None**.
6. Save the changes.

Task 4. Populate Chart Query.

1. Navigate to the **Chart Query** query.
2. From the **All Risks** source, add the following to the Data Items pane:



3. Change the aggregate functions properties to **None** for each data item.
4. Save the changes.

Task 5. Populate the chart container.

1. Navigate to Report Pages **Page1**.
2. Select the report page body and center it.
3. Set the page title to **Risk Rating by Entity**.

4. From the **Chart Query** in the Data Items tab, populate the chart container:
 - **Categories:** Short Name,
 - **Series:** RI_RESIDUAL_RISK_RATING,
 - **Default Measure:** RI_RISK_ID.
5. Select the Default Measure and set the following properties:
 - **Aggregate Function:** Count,
 - **Rollup Aggregate Function:** Automatic.
6. Select the **Short Name** Chart Text Item.
 - open the **Sort** tool bar menu and select **Edit Layout Sorting**,
 - drag **Short Name** into the **Sort List** pane and click **OK**.
7. Select the **RI_RESIDUAL_RISK_RATING** Chart Text Item.
 - open the **Sort** tool bar menu and select **Edit Layout Sorting**,
 - drag **Sort Legend** into the Sort List pane and click **OK**.
8. Run the report and review.
9. Save the changes.

Task 6. Format the chart report.

1. Expand **Axis Titles** and click **Default Category Axis Title**.
2. Change the **Default Title** property setting from **Yes** to **No**.
3. Click **Default Primary Axis Title** and change the Default Title property to **No**.
4. Click the bottom Axis Title text item.
5. Open the **Text** property, enter **# of Risks** and click **OK**.
6. Click **Default Legend Title** and change the Default Title property to **No**.
7. Double-click the text item and enter **Rating**.
8. In the **Series** field, click RI_RESIDUAL_RISK_RATING.
9. In the Properties ancestor selector, select **Bar**.
10. Change the **Borders** property from **Show** to **Hide**.
11. In the page body, select the **Combination Chart**.
12. Set the **Material Effects** property to **Semigloss**.

13. Open the **Size & Overflow** property.

- Width: **9 in**
- Height: **5 in**
- Click **OK**.

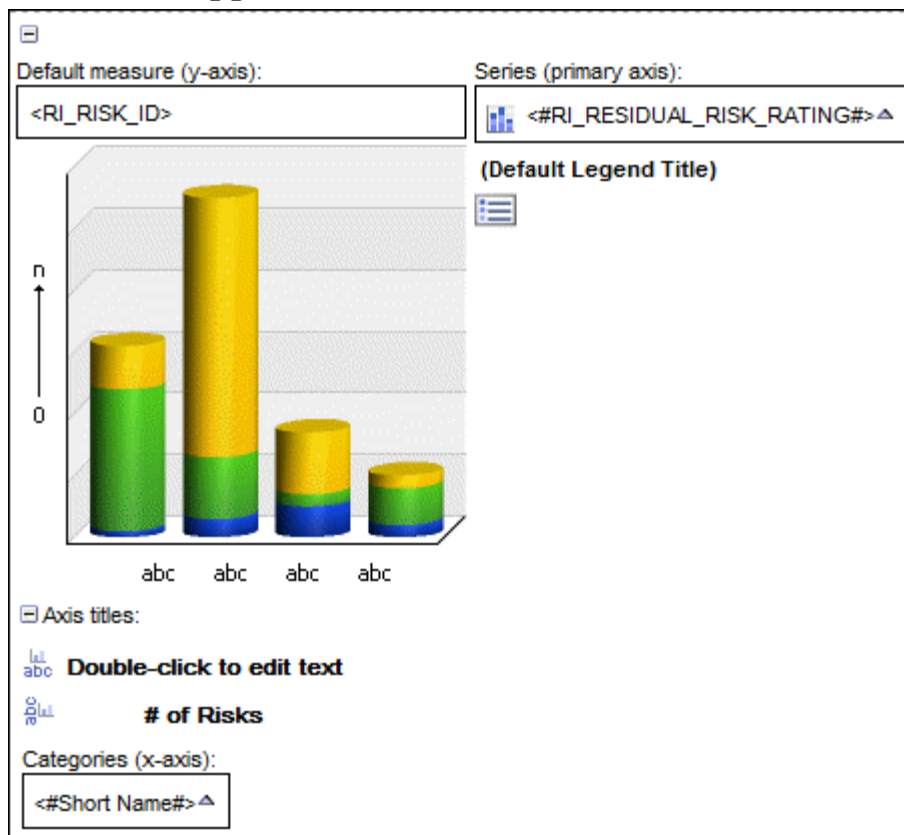
14. In the tool bar, open the **Chart Palette Presets** menu. 

15. Select **Dynamic**.

16. In the tool bar, open the **Background Effects Presets** menu. 

17. Select **Blue linear gradient with blue border**.

The results appear as follows:



18. Save the changes.

19. Run the report.

20. Close Cognos Viewer.

21. Exit Report Studio, log off, and close all browser windows.

Results:

You have created a report using a union query operation.

Summary

- At the end of this module, you should be able to:
 - list the IBM Cognos Query Operations
 - understand which query operations have limited use with IBM OpenPages GRC Platform data

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IMPORTANT

Solutions for the demos in this module can be found in:

Public Folders > 1O202 Solution Reports > Module 09.



Using Enums

IBM OpenPages: Report Authoring (v7.0)

Business Analytics software

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Objectives

- At the end of this module, you should be able to:
 - explain the need for using enumeration definition maps in filters and data items
 - create a filter using an enumeration definition map
 - create a construct using an enumeration definition map

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NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2)* (J2258) you may struggle completing the demonstrations in this module. Allow extra time to complete each demonstration.

Introduction

- To author GRC Platform reports correctly you need to learn to how to use enumeration definition maps.
- Report performance will be improved in most cases.
- Your report will be portable between your company's various GRC Platform systems.

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Enumeration String Value

- Each field definition of data type **Enumerated String** will have two or more **Enumerated String Values** defined.

RI_INHERENT_IMPACT
High
Medium
Low

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In this illustration the enumerated string values are “High,” “Medium,” and “Low.”

Filter On String Value-U.S. English

- You can create a filter on the string value and the report will return data correctly if the user's locale setting is U.S. English.

Expression Definition:

[RI_INHERENT_IMPACT]='High'

Risk Name	Risk Inherent Impact	Risk Inherent Impact ID
I01-RSK-01-02	High	318
I01-RSK-03-02	High	318
P01-RSK-01-03	High	318
RA05-RSK-01-01	High	318
S01-RSK-01-01	High	318

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Filter On String Value-German

- However, if it is a different locale, such as German, the report will be null because the filtered string value was not found.

Expression Definition:

[RI_INHERENT_IMPACT]='High'

Risiko Name	Risiko Inhärenter Einfluss	Risiko Inhärenter Einfluss ID

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Enumeration String Value ID

- Every enumeration string value has an identifier assigned to it at the time of creation.

Expression Definition:
`[RI_INHERENT_IMPACT_ID]+0=318`

Risk Name	Risk Inherent Impact	Risk Inherent Impact ID
I01-RSK-01-02	High	318
I01-RSK-03-02	High	318
P01-RSK-01-03	High	318
RA05-RSK-01-01	High	318
S01-RSK-01-01	High	318

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Filtering on the identifier will guarantee data will be displayed in reports no matter what the user's locale setting.

Enumeration String Value ID (cont'd)

- You cannot rely on identifiers to be consistent across all of your GRC Platform systems.

Production

RI_INHERENT_IMPACT	ENUMVALID
High	318
Medium	319
Low	320

Training

RI_INHERENT_IMPACT	ENUMVALID
High	268
Medium	269
Low	270

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In this illustration, filtering on ID 318 will return data correctly on the production GRC Platform. However, when the same report is moved to the training GRC Platform the report will fail because the identifiers are different.

Platform Portability


- The only way to ensure that your report will display correctly in all supported locale settings and in all GRC Platform systems is to use the **expression definition map**.
- This is used to map an enumeration string value to an ID for purposes of filtering and identifying desired values in the query.

Expression Definition:

```
[RI_INHERENT_IMPACT_ID] +0 = #SOXRISK_INHERENT_IMPACT_DEFINITION_MAP{High}#
```

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Definition Map Syntax


Syntax for the definition map:

```
#$<ObjectName>_<FieldName>_DEFINITION_MAP{ '<enum>' }#
```

RI_INHERENT_IMPACT
High
Medium
Low

Example

```
#$SOXRISK_INHERENT_IMPACT_DEFINITION_MAP{ 'High' }#
```

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Creating a definition map expression for the Risk Inherent Impact field, the following components will be used:

- **ObjectName:** SOXRISK
- **FieldName:** INHERENT_IMPACT
- **Enum:** High

In this example, the expression definition map will return the correct identifier for High on both the production and training platforms in all supported user locales.

Definition Map Filter

- When a report needs to be scoped to a specific enumerated string value, without using a prompt, the detail filter should use a definition map.

Expression Definition:

```
[LE_RISK_CATEGORY_ID] +0=#$LOSSEVENT_RISK_CATEGORY_DEFINITION_MAP  
{'Execution, Delivery and Process Management'}#
```



Demo 1

Definition Map Filter

Execution, Delivery and Process Management Losses

Location	Risk Sub Category	Actual Loss
/Global Financial Services/Asia Pac/Commercial Banking	Customer Intake and Documentation	\$1,500,000
	Reporting and Disclosure	\$15,000,000
/Global Financial Services/Asia Pac/Retail Brokerage	Customer/Client Account Management	\$100,000
/Global Financial Services/EMEA/Retail Banking	Customer Intake and Documentation	\$2,509,125
	Reporting and Disclosure	\$25,091,250
/Global Financial Services/North America/Retail Brokerage	Customer/Client Account Management	\$100,000

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IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: Definition Map Filter

Purpose:

Create a detail filter using a definition map which will ensure that the correct value is filtered no matter what the report user's locale setting. It will also make the report portable between different GRC Platform systems the customer may have.

Portal: <http://optrainvm/ibmcognos>

User/Password: **reportauthor/reportauthor**

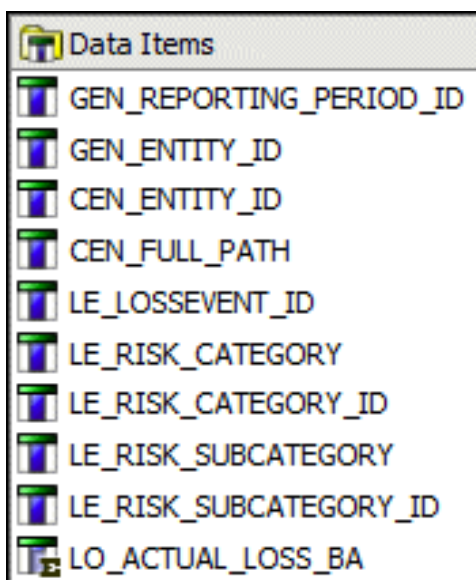
Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Namespace: **DEFAULT_REL**

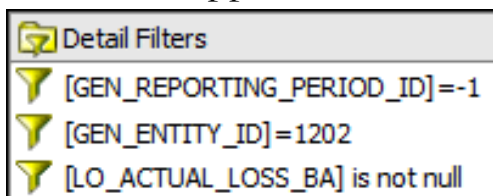
Task 1. Create a list report.

1. In Report Studio, start with a new list report.
2. Navigate to the report's query.
3. Change the **Name** property to **List Query**.
4. Add the following query items:
 - GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS,
 - GRC_OBJECTS > LOSSEVENT > ID_FIELDS,
 - GRC_OBJECTS > LOSSEVENT > ENUMERATION_FIELDS > RISK_CATEGORY (ENUMERATION),
 - GRC_OBJECTS > LOSSEVENT > ENUMERATION_FIELDS > RISK_SUBCATEGORY (ENUMERATION),
 - GRC_OBJECTS > LOSSIMPACT > CURRENCY_FIELDS > ACTUAL_LOSS (CURRENCY).



5. Change the **Label** properties to match the Demo 1 slide.
6. Add the following filters:
 - current reporting period,
 - /Global Financial Services starting entity (1202)
 - is not null using the Actual Loss data item

The results appear as follows:



7. Populate the list container and format based upon the Demo 1 slide. NOTE: Be sure to group the Location column.

The results appear as follows:

Execution, Delivery and Process Management Losses		
Location	Risk Sub Category	Actual Loss
<CEN_FULL_PATH>	<LE_RISK_SUBCATEGORY>	<LO_ACTUAL_LOSS_BA>
<CEN_FULL_PATH>	<LE_RISK_SUBCATEGORY>	<LO_ACTUAL_LOSS_BA>

8. Save the report as **10-Loss Event** in **My Folders**.
9. Run the report, observe the results, and close Cognos Viewer.

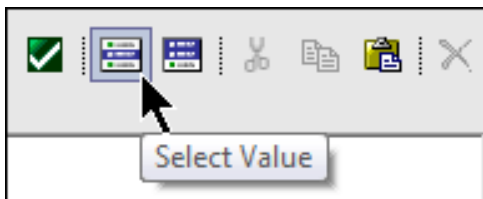
Task 2. Add a definition map detail filter.

The report specification requests only those losses in which the Loss Event **Risk Category** is set to the value **Execution, Delivery and Process Management**. Use a definition map filter so this report can be both portable and filter correctly no matter what the user's locale.

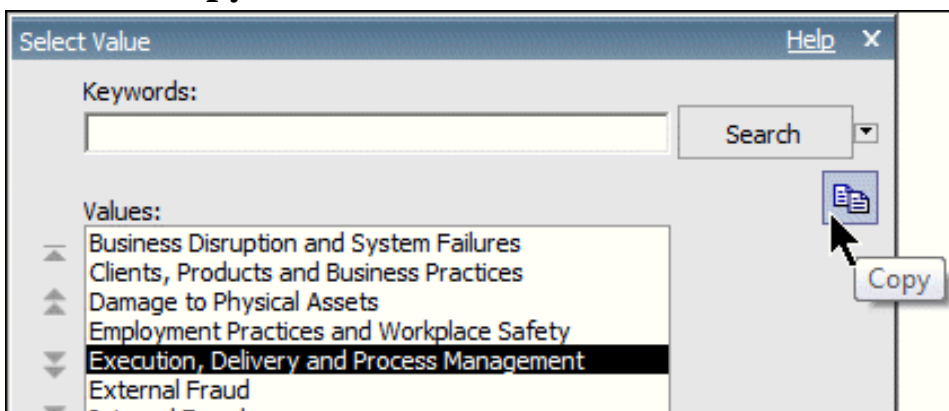
1. Navigate to the report's query.
2. Add a new Detail Filter.
3. From the **Data Items** tab drag LE_RISK_CATEGORY_ID into the expression definition.
4. To significantly improve the performance of this filter add zero to this identifier.
5. Enter the following after the zero:

=#\$LOSSEVENT_RISK_CATEGORY_DEFINITION_MAP{}

6. From the **Source** tab expand DEFAULT_REL | ENUMERATIONS | LOSSEVENT (ENUMERATIONS) folders
7. Expand the LE_RISK_CATEGORY query subject.
8. Select the LE_RISK_CATEGORY query item.
9. Click the **Select Value** button:



10. Click once on Execution, Delivery and Process Management.
11. Click the **Copy** button:



12. Close the **Select Value** window.
13. Place the cursor between the two curly brackets and **Paste** the value.

The results appear as follows:

```
[LE_RISK_CATEGORY_ID]+0=#$LOSSEVENT_RISK_CATEGORY_DEFINITION_
MAP{'Execution, Delivery and Process Management'}#
```

NOTE: This is one continuous line of text.

14. Click **OK** to save the filter.
15. Run, test and validate the report.
16. Save the changes.

Results:

You created a report that has a definition map detail filter.

Definition Map Flag

- You can use a definition map to test for a specific enumerated string value and when the results are positive you can set a flag.

Expression Definition:

```
if([RI_INHERENT_IMPACT_ID] + 0 = #SOXRISK_INHERENT_IMPACT_DEFINITION_MAP{High} #)  
then(1)  
else(null)
```

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By using the number 1 to identify a positive IF() statement you can aggregate using TOTAL.

If you want to use COUNT or COUNT DISTINCT the best practice is to use an object type identifier to indicate a positive IF() statement result. In this illustration, you would most likely use the Risk ID in the THEN() statement.

Demo 2

Definition Map Flags

Control Effectiveness Analysis

Location	Process	Effective	Ineffective	Not Determined	Total
/Global Financial Services/Asia Pac/Commercial Banking	CB-01	10	3	11	24
	CB-41	1	1	3	5
/Global Financial Services/Asia Pac/Retail Banking	RB-01	0	0	13	13
	RB-02	2	0	1	3
	RB-07	0	0	2	2
	RB-08	0	0	1	1
	RB-09	0	1	2	3



Demo 2: Definition Map Flags.

Purpose:

The Risk Management team has requested a report showing the number of controls for a process record by operating effectiveness and the total number of controls for the process record. You will use definition maps in one query to identify the operating effectiveness option for each control record and then aggregate the options, and calculate the total, in a separate query.

Portal: <http://optrainvm/ibmcognos>

User/Password: **reportauthor/reportauthor**

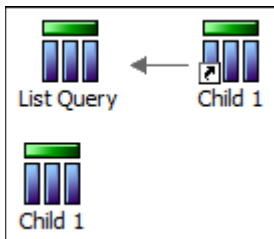
Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Setup the query structure.

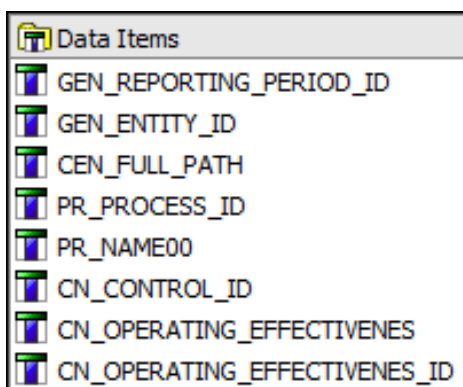
1. In Report Studio, start with a new list report.
2. Slide open **Query Explorer** and select the **Queries** folder.
3. Click **Query1** and change the name to **List Query**.
4. From the toolbox, drag a Query to the right of List Query.
5. Click **Query1** (not the reference query) and rename it to **Child 1**.
6. Set the **Auto Group & Summarize** property to **No**.

The results appear as follows:



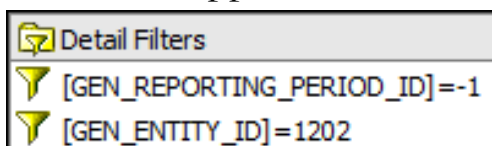
Task 2. Populate Child 1 query.

1. Add the following query items to the query:
 - DEFAULT_REL > GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS,
 - GRC_OBJECTS > SOXPROCESS > ID_FIELDS,
 - GRC_OBJECTS > SOXCONTROL > ID_FIELDS,
 - GRC_OBJECTS > SOXCONTROL > ENUMERATION_FIELDS > OPERATING_EFFECTIVENES (ENUMERATION).



2. Add the following detail filters:
 - current reporting period
 - starting entity /Global Financial Services ID (1202)

The results appear as follows:



Task 3. Add an 'Is Not Null' filter.

In this task, you will use a different filtering mechanism to improve the performance of the report. You will create a data item that sets a flag when another data item is not null. You will then filter on the flag.

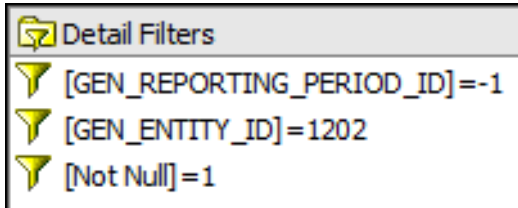
1. From the toolbox, drag a Data Item into the Data Items pane.
2. Change the name to **Not Null**.

3. Create the following Expression Definition:

```
if([CN_CONTROL_ID] is not null)
then (1)
else (0)
```

4. Click **OK** and then change the aggregate function properties to **None**.
5. Drag the **Not Null** data item into the Detail Filters pane and type **=1**.

The results appear as follows:



6. Save the report as **10-Control Effectiveness Analysis** in **My Folders**.

Task 4. Create data items using definition maps.

In this task you will use an IF-THEN-ELSE construct to identify controls in which the Operating Effectiveness field is set to **Effective**. Due to the nature of the GRC Platform data, when you aggregate the number of effective controls, you do not want to count the same control multiple times. Therefore, once a control has been identified as effective, you will set this data item to the identifier of the control, then in a later task, you will perform a count(distinct) on this data item, eliminating duplicate effective controls from the final count.

1. From the toolbox, drag a Data Item into the Data Items pane.
2. Change the name to **Effective**.
3. Create the following Expression Definition:

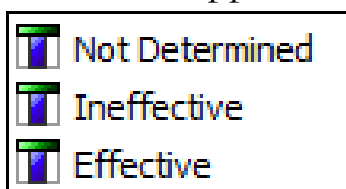
```
if([CN_OPERATING_EFFECTIVENES_ID]+0=
#$SOXCONTROL_OPERATING_EFFECTIVENES_DEFINITION_MAP{'Effective'}#)
then ([CN_CONTROL_ID])
else (null)
```

NOTE: The **IF** statement is one continuous line. Also, note the spelling for operating effectiveness.

4. Click **OK** and then change the aggregate function properties to **None**.

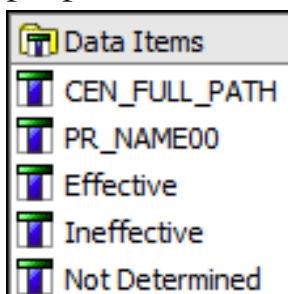
- Repeat this task for the **Ineffective** and **Not Determined** options.

The results appear as follows:



Task 5. Populate the List Query.

- Navigate to the **List Query**.
- Populate the query as shown below and then set the aggregate function properties to **None** for all data items:



- Configure the **Label** property as indicated:
 - CEN_FULL_PATH**: Location,
 - PR_NAME00**: Process.
- Open the **Effective** data item and make the modifications shown below:


```
count(distinct[Child 1].[Effective])
```
- Make the same modifications to the **Ineffective** and **Not Determined** data items.
- Add a new data item to the Data Items pane and name it **Total**.
- Create the Expression Definition as shown below:

```
[Effective]+[Ineffective]+[Not Determined]
```

- Set the aggregate function properties to **None**.
- Save the report.

Task 6. Populate and format the list container.

1. Navigate to the first page of the report pages.
2. Populate the list container using the data items from **List Query**. Use the Demo 2 slide for guidance.
3. Group the location column and add final formatting to the report page.
4. Run, test and validate the report.
5. Save the changes.
6. Exit Report Studio, log off, and close all browser windows.

Results:

You have used definition maps as a method to flag operating effectiveness settings for control records in a list report.

Summary

- At the end of this module, you should be able to:
 - explain the need for using enumeration definition maps in filters and data items
 - create a filter using an enumeration definition map
 - create a construct using an enumeration definition map

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IMPORTANT

Solutions for the demos in this module can be found in:

Public Folders > 1O202 Solution Reports > Module 10.



Secondary Object Type Reports

IBM OpenPages: Report Authoring (v7.0)

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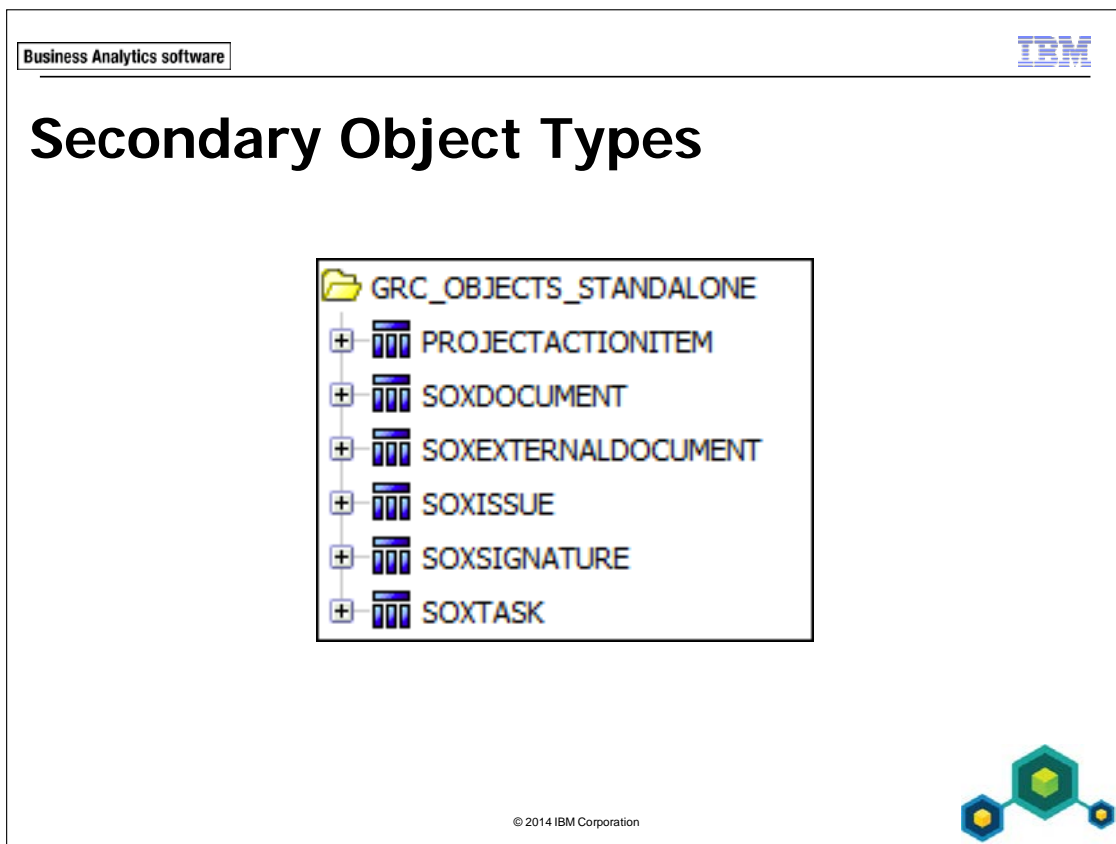


Objectives

- At the end of this module, you should be able to:
 - understand how secondary object types are used
 - use query joins
 - build Issue reports

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NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2)* (J2258) you may struggle completing the demonstrations in this module. Allow extra time to complete each demonstration.



Secondary object type query subjects are located in the GRC_OBJECTS_STANDALONE.

There are only six secondary object types in the GRC Platform. These object types can be associated to any primary or other secondary object type, with one exception. The SOXTask object type can be a child to the SOXIssue object type only.

These six query subjects have no SQL joins to any other query subjects, which is the reason for the “Standalone” label. For this reason you must create the links, or associations, to these query subjects using joins in Report Studio reports.

NOTE: There is one exception, the SOXIssue has a left-outer join to the SOXTask query subject.

Secondary Object Type Reports

- Secondary object type reports, with no joins, will pull every record of that object type from the database and display it.
- This can be useful if all you want is a report of all the records for a given secondary object type report.

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This is probably not a good report to use if you have tens of thousands of Issue records, for example. While you can filter on any Issue characteristic, you cannot reduce the scope of the report to a selected business entity, for example.

Best practice: Scope secondary object type reports on an entity hierarchy or parent object type.

Demo 1

All Issues Report

<u>All Issues Analysis</u>						
	Open	Closed	Significant	More Than Inconsequential	Inconsequential	Not Determined
[Not Typed]	5					5
Control Activity Missing	4				2	2
Design Effectiveness	3		3			
Investigation	1				1	
Operating Effectiveness	2				2	
Policy/Standard Violation	2		2			
Regulatory	2	1	3			
Review Comment	5	1	2		4	

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IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: All Issues Report

Purpose:

You will create a report that takes data from the entire pool of SOXIssue records.

Portal: <http://optrainvm/ibmcognos>

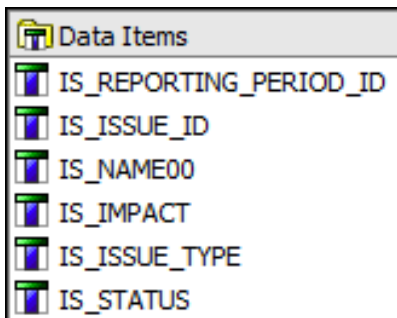
User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Populate the crosstab query.

1. In Report Studio, start with a new crosstab report.
2. Navigate to the report's query and change the name to **Crosstab Query**.
3. In the Source tab, expand DEFAULT_REL:
 - GRC_OBJECTS_STANDALONE > SOXISSUE > ID_FIELDS,
 - SOXISSUE > ENUMERATION_FIELDS > IMPACT (ENUMERATION),
 - SOXISSUE > ENUMERATION_FIELDS > ISSUE_TYPE (ENUMERATION),
 - SOXISSUE > ENUMERATION_FIELDS > STATUS (ENUMERATION).
4. Add the following:



5. Create the current reporting period detail filter:

[IS_REPORTING_PERIOD_ID]=-1
6. Save the report as **11-All Issues Crosstab** in **My Folders**.

Task 2. Populate the crosstab container.

1. Navigate to the crosstab container, report pages **Page1**.
2. Select the crosstab container and change the name to **All Issues Crosstab**.
3. Select the report page body and center it.
4. Set the page title to **All Issues Analysis**.
5. From the Data Items pane, populate the container:
 - **Rows:** Issue Type,
 - **Columns:** Issue Status,
 - **Columns:** Issue Impact (to the right of Issue Status)
 - **Measures:** Issue identifier
6. Select the white cells of the measure and in the properties pane ancestor selector, select **Crosstab Fact Cells**.
7. Modify the following properties:
 - **Aggregate Function:** Count Distinct,
 - **Rollup Aggregate Function:** Automatic.
8. Run the report and review the information.

The results appear as follows:

<u>All Issues Analysis</u>						
IS_ISSUE_ID	Closed	Open	Significant	More Than Inconsequential	Inconsequential	Not Determined
Regulatory	1	2	3			
Review Comment	1	5	2	4		
Control Activity Missing		4			2	2
Design Effectiveness		3	3			
Investigation		1		1		
Operating Effectiveness		2		2		
Policy/Standard Violation		2	2			
		5				5

Note that there are some issue records that do not have the type set and that type is displaying nothing in the left edge.

9. Close Cognos Viewer and save the changes.

Task 3. Modify the issue type display.

1. Navigate to the report's query and from the toolbox, add a data item.
2. Create the following expression and click **OK**.

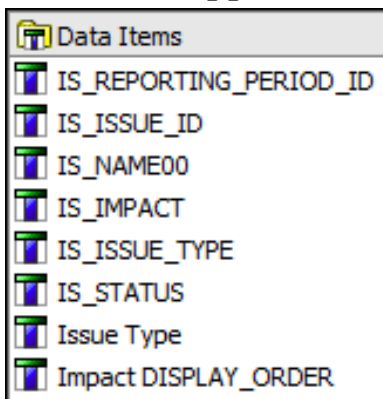
```
if([IS_ISSUE_TYPE] is null or [IS_ISSUE_TYPE] is missing)
then('[Not Typed]')
else([IS_ISSUE_TYPE])
```

3. Change the name to **Issue Type** and the aggregate functions to **None**.
4. Navigate to the crosstab container.
5. Right-click the left edge, **IS_ISSUE_ID** and select **Cut**.
6. From the data items pane, drag the new **Issue Type** data item into the left edge (Rows area).
7. Run the report and note the change to the left edge information.
8. Close Cognos Viewer and save the changes.

Task 4. Format the crosstab container.

1. Navigate to the report's query.
2. Expand DEFAULT_REL > ENUMERATIONS > SOXISSUE (ENUMERATIONS) > IS_IMPACT.
3. Drag DISPLAY_ORDER into the data items pane and change the name to **Impact DISPLAY_ORDER**.

The results appear as follows:



4. Navigate to the crosstab container and select the issue status top edge.
5. Open the **Sort** menu in the tool bar and select **Sort Descending**.
6. Select the issue impact top edge.
7. Open the **Sort** menu in the tool bar and select **Edit Layout Sorting**.

8. Move **Impact DISPLAY_ORDER** into the **Sort List** pane, confirm the direction is ascending, and click **OK**.
9. Select the Issue Type left edge.
10. Open the **Sort** menu in the tool bar and select **Sort Ascending**.
11. Select the crosstab corner and change the **Source Type** property to **Text**.
12. From the toolbox, drag a **Crosstab Space** into the top edge, between Issue Status and Issue Impact.

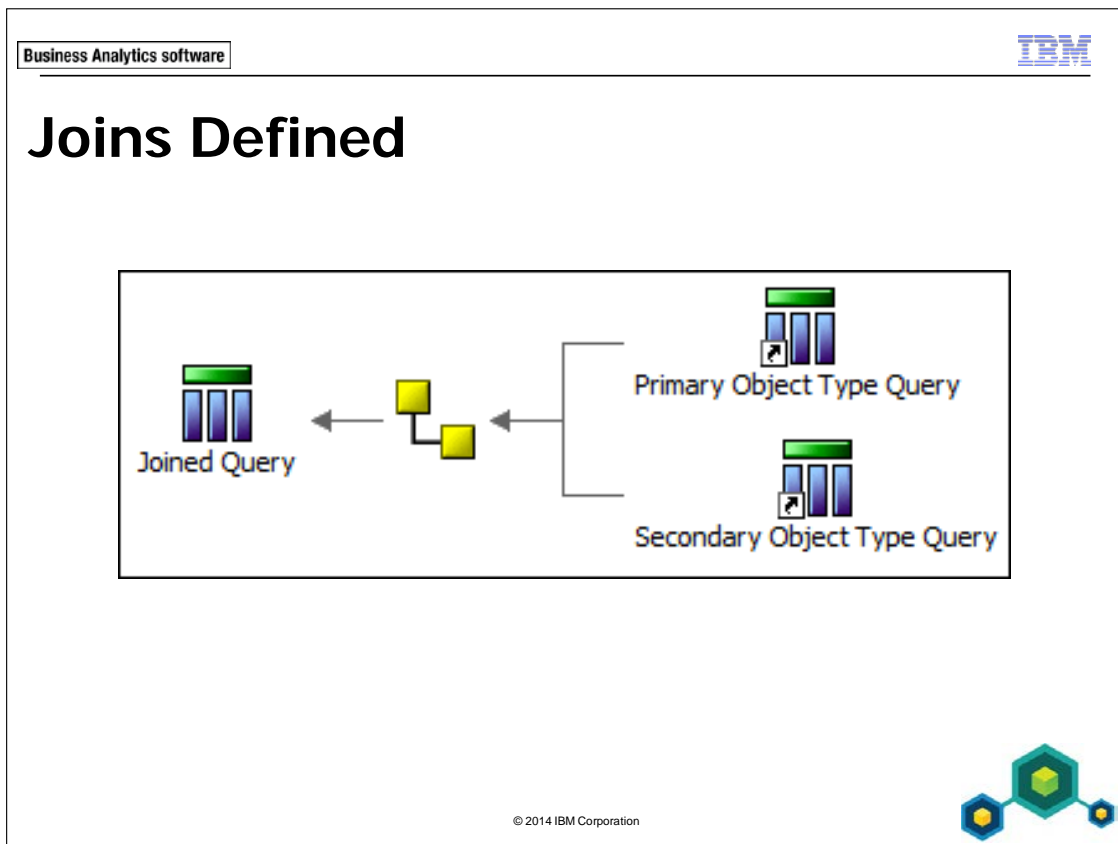
The results appear as follows:

<#IS_STATUS#>▼	<#IS_IMPACT#>▲
<#1234#>	<#1234#>
<#1234#>	<#1234#>

13. Click the crosstab space top edge and change the following properties:
 - **Border:** None on all four sides,
 - **Padding:** Zero pixels for left and right sides,
 - **Background Color:** Transparent.
14. Click the crosstab space white cells and change the following properties:
 - **Border:** None on all four sides,
 - **Padding:** Zero pixels for left and right sides,
 - **Background Color:** Transparent.
15. Save the changes.
16. Run the report and compare to the Demo 1 slide.
17. Close Cognos Viewer.

Result:

You created an all issues report that reports on all issue records in the GRC Platform.



A join combines rows of data from two queries into one query that is then used to populate a report container, for example a List container.

The joined queries must contain a value in common in order to logically join the rows contained in the two result sets, and to limit the size of the joined query.

The Join operation results in a wider list report, adding more columns to the report result set.

Two Types of Joins

- There are two types of joins used for GRC Platform data.
 - Direct Joins
 - Indirect Joins



You can use two methods to display secondary object type records and the parent information for each.

For the purposes of this training we will use Issues (SOXIssue object type) to illustrate how to create secondary object type reports. Issue reports are the most requested secondary object type report.

Direct Joins

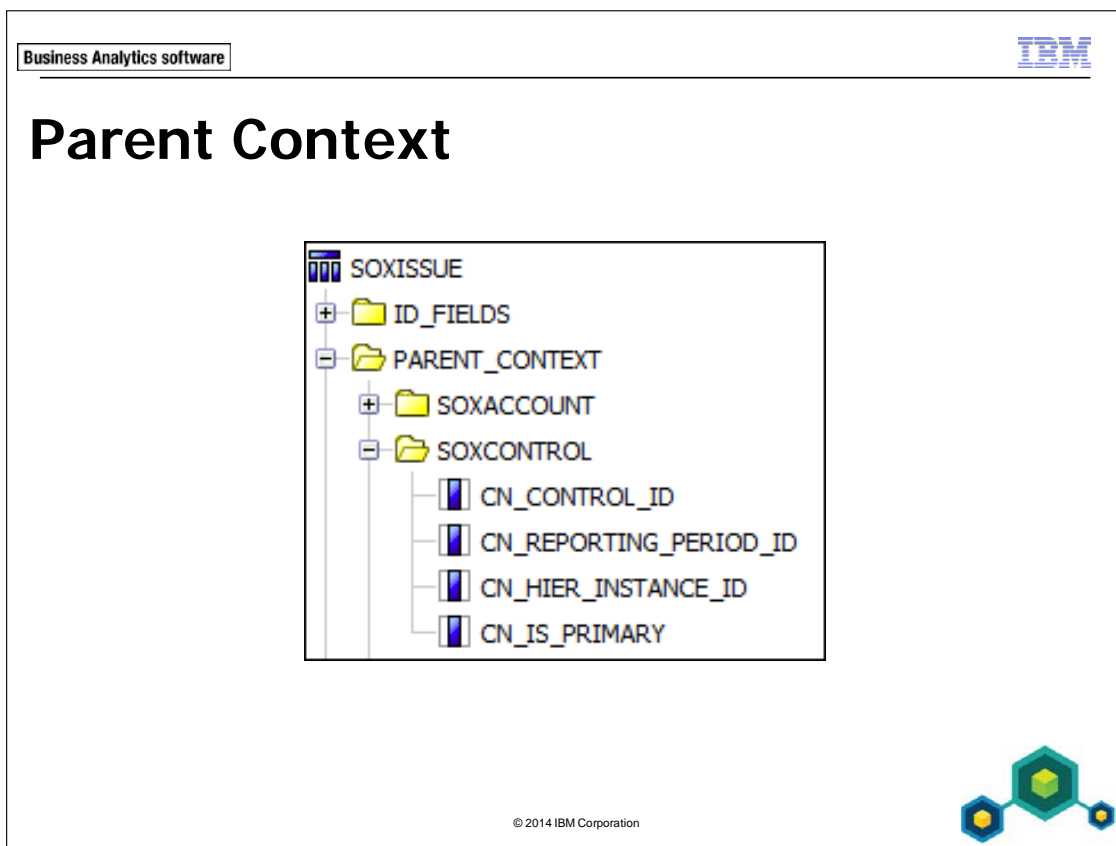
Entity	Process	Issue
08_Mexico	S01	S01-ISS-011
08_Mexico	P01	P01-ISS-006
08_Mexico	I01	I01-ISS-007
08_Mexico	S01	S01-ISS-005

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Direct Joins are used to display secondary object type records that are directly associated to a single primary object type record.

For example, all Issues associated to Process records.




Every secondary object type query subject contains a `PARENT_CONTEXT` folder. Direct joins use the **Parent Context** information.

The `PARENT_CONTEXT` folder contains a folder for every primary object type, each of which have four query items:

- object type record identifier is used to identify the parent record,
- reporting period identifier is used to identify the reporting period of the parent record,
- hierarchy instance identifier is always set to **1**,
- “Is Primary” returns either **Y** or **N**,
- **Y** indicates the selected parent record is the primary parent record. This can be used in a detail filter to restrict the result set to primary Parent/Child associations.

Using `PARENT_CONTEXT` will restrict the query to displaying secondary object type records for the selected parent context, effectively adding a filter to the query.

Contents from only one parent context folder can be used in a query. If you need to display secondary objects for multiple parent object type records, you will need to create multiple join queries, one for each parent object type. Finally, use a Union to create a query you can use to populate your report container.

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Direct Join Queries

Processes


Data Items
GEN_REPORTING_PERIOD_ID
GEN_ENTITY_ID
CEN_ENTITY_ID
CEN_NAME00
PR_PROCESS_ID
PR_NAME00
PR_PROCESS_OWNER

Detail Filters
[GEN_REPORTING_PERIOD_ID] = -1
[GEN_ENTITY_ID] = 13045
[PR_PROCESS_ID] is not null

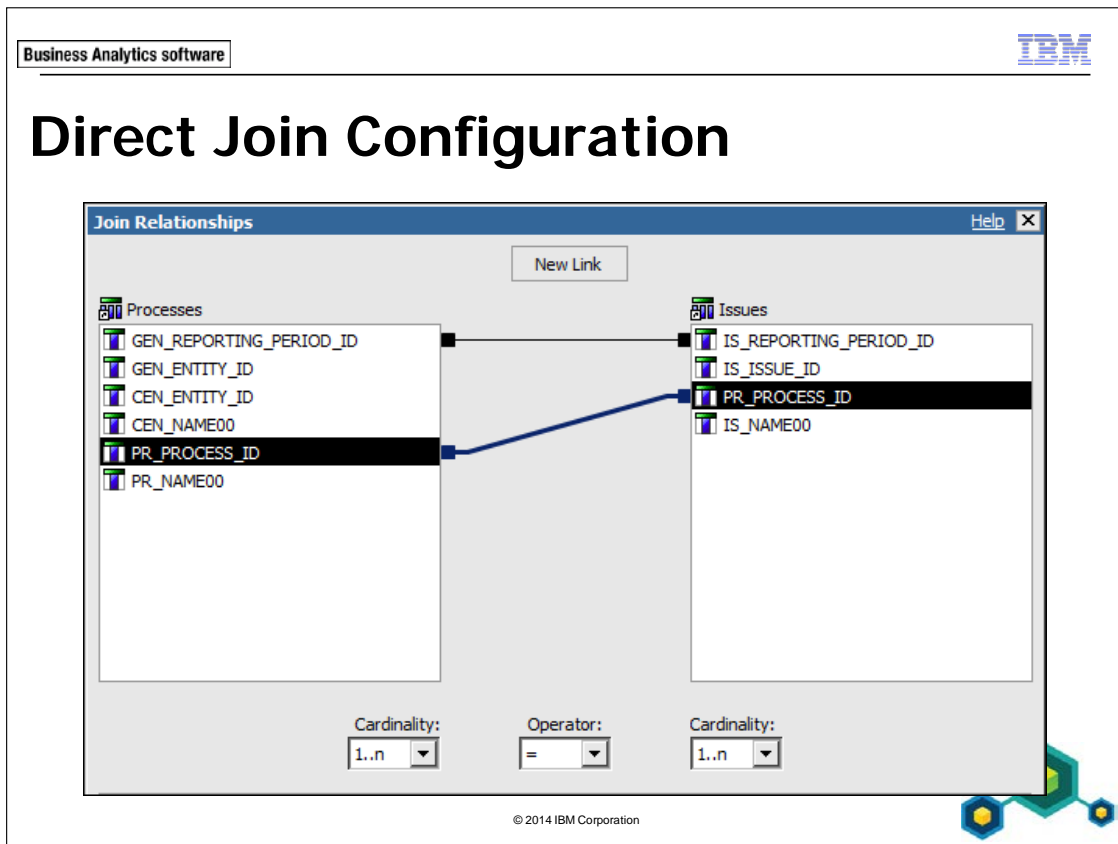
Issues

Data Items
IS_REPORTING_PERIOD_ID
IS_ISSUE_ID
PR_PROCESS_ID
IS_NAME00
IS_STATUS
IS_STATUS_ID

Detail Filters
[IS_REPORTING_PERIOD_ID] = -1



In direct joins, the secondary object type query contains a query item that limits the returned records in the result set to a specific GRC Platform object type. In this illustration the **Issues** query is using the Process identifier query item (PR_PROCESS_ID) which comes from the PARENT_CONTEXT folder.



The two links in this illustration set up the join between the Processes query and the Issues query. The link between reporting period identifiers is for performance enhancement only since both queries have been filtered for the same reporting period.

Demo 2

Direct Join Report

Process issues							
Location	Process	Process Description	Process Owner	Issue	Issue Description	Status	Impact
/Global Financial Services/Asia Pac/Commercial Banking	CB-41	Oversight	ORM Director	CB-41_ISS_0000093	The RCSA for this process needs to be completed before the end of the year.	Open	Not Determined
				CB-41_ISS_0000087		Open	Significant
/Global Financial Services/Asia Pac/Retail Banking	RB-04	Business Continuity	ORM User	RB-04_ISS_0000004		Open	Not Determined
	RB-07	Oversight	ORM Director	RB-07_ISS_0000005		Open	Not Determined
/Global Financial Services/EMEA/Retail Banking	RB-17	Oversight	ORM Director	RB-17_ISS_0000313	Country specific mandates are not getting updated in a timely manner.	Open	Significant
	RB-18	Human Resources	ORM User	RB-18_ISS_0000312	Salary band titles and ranges are out of date.	Open	Inconsequential
				RB-18_ISS_0000311	Industry compensation comparables are out of date.	Open	Not Determined
/Global Financial Services/North America/Retail Brokerage	RB-27	Oversight	ORM Administrator	RBR-27_ISS_0000320	Country specific mandates are not getting updated in a timely manner.	Open	Significant
	RB-28	Human Resources	ORM User	RBR-28_ISS_0000319	Salary band titles and ranges are out of date.	Open	Inconsequential
				RBR-28_ISS_0000318	Industry compensation comparables are out of date.	Open	Not Determined



Demo 2: Direct Join Report

Purpose:

This demonstration will step you through creating a list report showing Process records with Issues associated to them. This report uses a direct join.

Portal: <http://optrainvm/ibmcognos>

User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

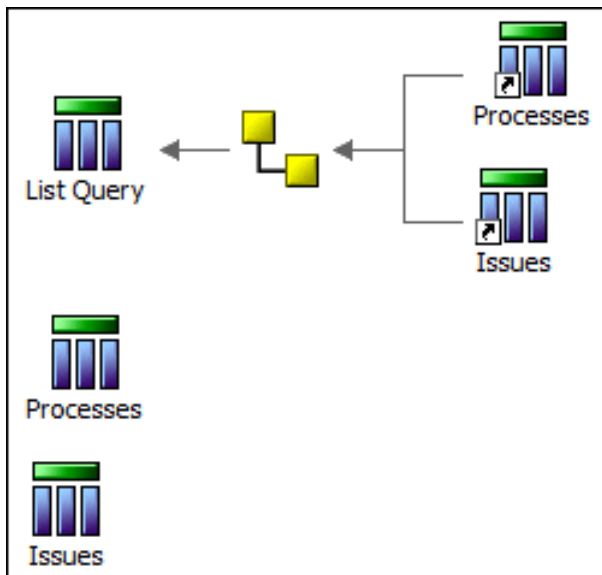
Task 1. Set up the query hierarchy.

1. In Report Studio, start with a new list report.
2. In query explorer, select the **Queries** folder.
3. Select **Query1** and change the name to **List Query**.
4. From the **Toolbox** drag the **Join** tool to the right of the **List Query**.
5. From the **Toolbox** drop a **Query** into each of the two join query reference containers.
6. Rename the top query to **Processes** and set **Auto Group & Summarize** to **No**.

- Rename the bottom query to **Issues** and set **Auto Group & Summarize** to **No**.

The names can be reversed; the order is unimportant.

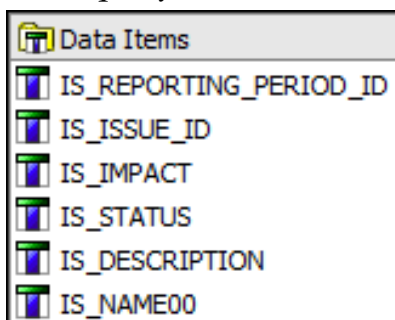
The results appear as follows:



- Save the report as **11-Direct Join List** in **My Folders**.

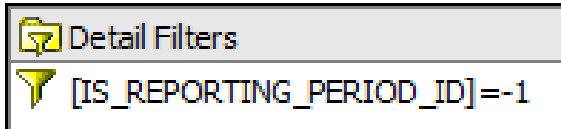
Task 2. Populate the Issues query.

- Open the Issues query.
- Expand DEFAULT_REL > GRC_OBJECTS_STANDALONE > SOXISSUE.
- Add query items to the **Data Items** pane:



- Expand DEFAULT_REL > GRC_OBJECTS_STANDALONE > SOXISSUE > PARENT_CONTEXT > SOXPROCESS.
- Add **PR_PROCESS_ID** to the **Data Items** pane.

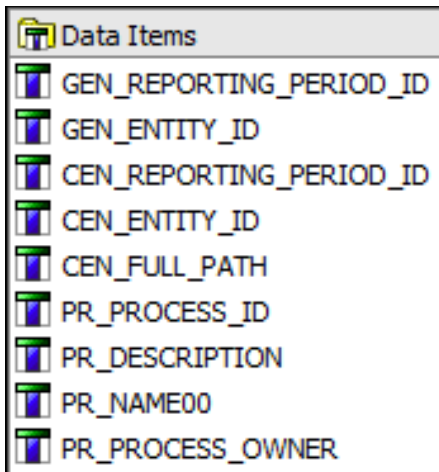
6. Create the current reporting period detail filter.



7. In query explorer, right-click the **Issues** query and select **View Tabular Data**.
8. Validate the results and close Cognos Viewer.

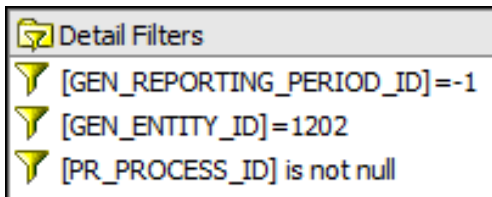
Task 3. Populate the Processes query.

1. Open the Processes query.
2. Expand DEFAULT_REL > GRC_OBJECTS > :
 - SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS,
 - SOXPROCESS > ID_FIELDS.
3. Add the following query items to the **Data Items** pane.



4. create the following detail filters:
 - current reporting period (use GEN),
 - starting entity /Global Financial Services (GEN=1202),
 - Is Not Null using process identifier.

The results appear as follows:



5. View tabular data for this query and validate results.
6. Close Cognos Viewer and save the changes.

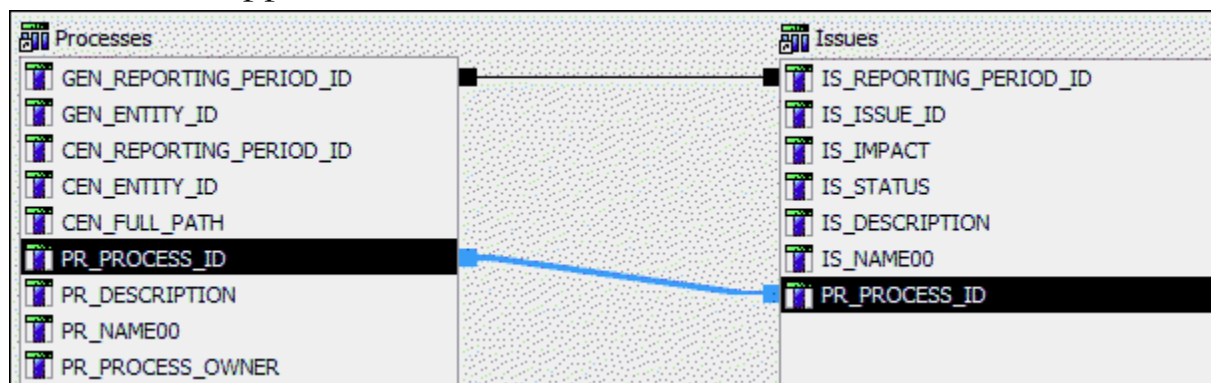
Task 4. Define the join.

1. Navigate to the **Queries** folder
2. Double-click the **Join** to open the **Join Relationships** window.
3. Click the **New Link** button one time.
4. In the **Processes** pane click once on **GEN_REPORTING_PERIOD_ID**.
5. In the **Issues** pane click once on **IS_REPORTING_PERIOD_ID**.

Since both queries are returning only rows of data from the current reporting period this link is used to improve the performance of the report only.

6. Click the **New Link** button one time.
7. In the **Processes** pane click once on **PR_PROCESS_ID**.
8. In the **Issues** pane click once on **PR_PROCESS_ID**.

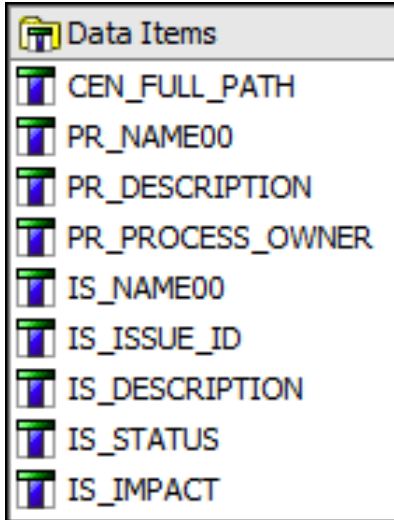
The results appear as follows:



Task 5. Populate the List query.

1. Open the **List Query** and click the **Source** tab at the bottom of the content pane.
2. Refer to the illustration below and add the data items to your **Data Items** pane.
 - Set both **Aggregate** and **Rollup Aggregate** functions to **None** for each data item as they are added.

The results appear as follows:



3. Set the following labels:
 - CEN_FULL_PATH: Location,
 - PR_NAME00: Process,
 - PR_DESCRIPTION: Process Description,
 - IS_NAME00: Issue,
 - IS_DESCRIPTION: Issue Description,
 - IS_STATUS: Status,
 - IS_IMPACT: Impact.
4. View the tabular data for the List Query and validate results.
5. Close Cognos Viewer and save changes.

Task 6. Create a Get Display Name data item.

1. Add a data item to the List Query.
2. Create the following expression and click **OK**:

```
"OP_ACTOR_MGR.GET_DISPLAY_NAME" (
  [PR_PROCESS_OWNER],
  NULL,
  '%FN; %LN;'
)
```

3. Change the name to **Process Owner** and both aggregate functions to **None**.

Task 7. Populate the list container.

1. Navigate to the list container.
2. Select the List and change the name to **Process Issues Direct Join List**.
3. Select the report page body and center it.
4. Set the title to **Process Issues**.
5. Never add data items from the two join queries **Processes** and **Issues**.
6. Add the items left-to-right; down the object model hierarchy, **Entity - Process - Issue**.
7. From the **List Query** add the following data items to the list container:
 - Location,
 - Process,
 - Process Description,
 - Process Owner (the one with the OpenPages function),
 - Issue,
 - Issue Description,
 - Status,
 - Impact.

8. Group the following in order:

- Location,
- Process,
- Process Description,
- Process Owner.

Task 8. Run the report.

1. Run the report and analyze the results.
2. Close the Cognos Viewer.
3. Save the changes.

Result:

You created a list report showing Process records with Issues associated to them using a tabular join.

IS_REL_PARENT_CHILD

- This function, as configured below, identifies whether or not a parent-child relationship exists (either direct or indirect, primary or non-primary) between any two object type records.
- Returns 'Y' or 'N'.

```
"OP_RPS_AUX.IS_REL_PARENT_CHILD"  
(<parent_id>,  
<child_id>,  
<reporting period id>)
```

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This function can be used to filter rows of data or used to define a join. When used to define a join you are creating an **Indirect Join**.

This function, in a join, will yield a result set in which every secondary object type record within a selected hierarchy, determined by the <parent_id>, is returned.

IS_REL_PARENT_CHILD (cont'd)


- This function, as configured below, identifies whether or not a parent-child relationship exists (either direct or indirect, primary only) between any two object type records.
- Returns 'Y' or 'N'.

```
"OP_RPS_AUX.IS_REL_PARENT_CHILD"  
(<parent_id>,  
<child_id>,  
<reporting period id>,  
'Y')
```

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This version of the same function will return a 'Y' only for a parent-child relationship that is primary. This will eliminate rows in the result set in which a child record has a primary parent-child relationship within a different hierarchy.

Business Analytics software


Indirect Joins

Entity	Issue
08_Mexico	S01-ISS-005
08_Mexico	P01-ISS-006
08_Mexico	I01-01-ISS-012
08_Mexico	I01-ISS-007
08_Mexico	S01-ISS-011
08_Mexico	I01-CA-01-02-ISS-001
08_Mexico	P01-02-ISS-013
08_Mexico	P01-CA-01-01-ISS-002




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Indirect Joins are used to display all secondary object type records that can roll-up to a specified primary object type record.









For example, all Issues under the Mexico business entity.

As a report author you have the flexibility to select any object type in the GRC Platform hierarchy as the starting point for indirect joins. The indirect join will show all secondary objects associated to the starting object type and the remaining object types below it in the hierarchy.







Business Analytics software



Indirect Join Queries

Entity

Data Items	Detail Filters
 GEN_REPORTING_PERIOD_ID	 [GEN_REPORTING_PERIOD_ID] = -1
 GEN_ENTITY_ID	 [GEN_ENTITY_ID] = 13045
 GEN_FULL_PATH	
 CEN_REPORTING_PERIOD_ID	
 CEN_ENTITY_ID	
 CEN_NAME00	

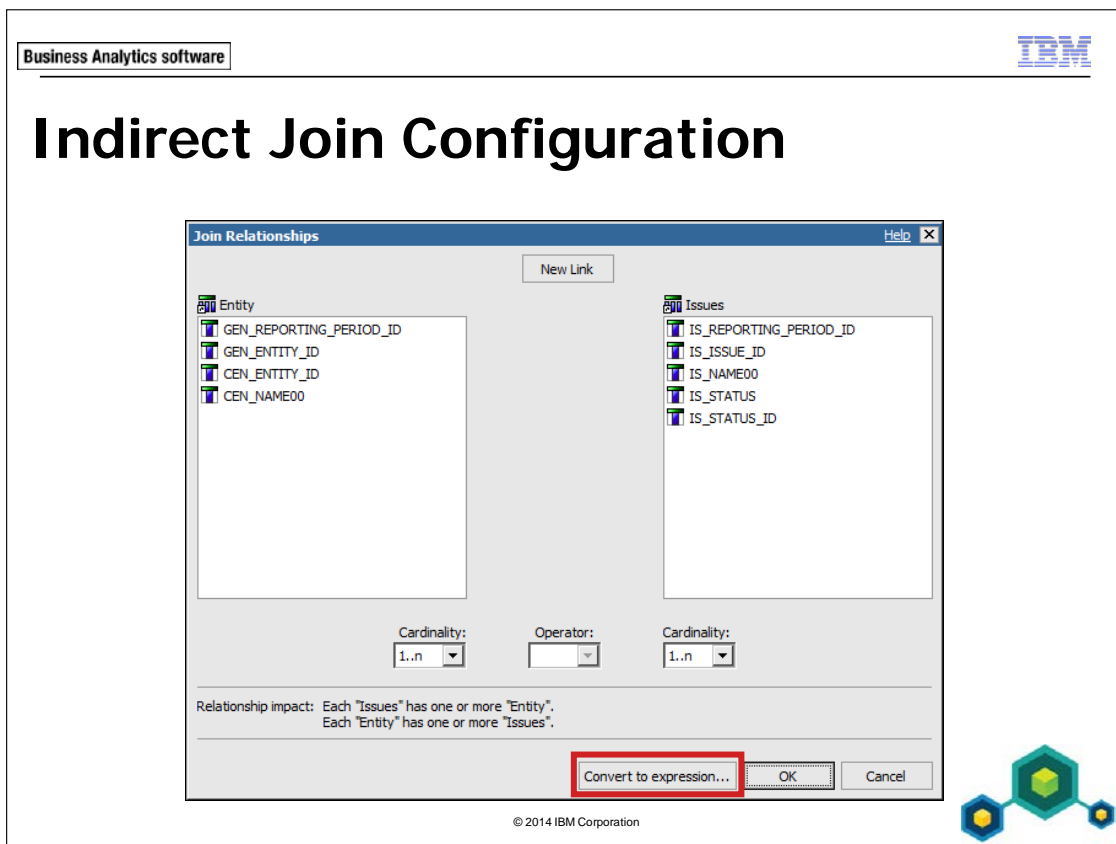
Issues

Data Items	Detail Filters
 IS_REPORTING_PERIOD_ID	 [IS_REPORTING_PERIOD_ID] = -1
 IS_ISSUE_ID	
 IS_NAME00	
 IS_STATUS	
 IS_STATUS_ID	



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As in the direct join, there exists a primary and a secondary object type query. In this example, the primary object type query results in entity information for a specified entity (ID=13045). The secondary object type query results in information for issues. However, this query does not contain a PARENT_CONTEXT data item. Therefore, it will pull data from every issue record in the GRC Platform.



Instead of using the **New Link** button, the **Convert to expression** option is used for indirect joins.

Indirect Join Configuration (cont'd)

```
"OP_RPS_AUX.IS_REL_PARENT_CHILD"(  
[Entity].[CEN_ENTITY_ID],  
[Issues].[IS_ISSUE_ID],  
[Entity].[CEN_REPORTING_PERIOD_ID]) = 'Y'  
  
and  
  
[Entity].[CEN_REPORTING_PERIOD_ID] = [Issues].[IS_REPORTING_PERIOD_ID]
```



The OpenPages Reporting function **IS_REL_PARENT_CHILD** is used to locate only those issue records that have a primary parent-child relationship with the selected business entity. This will result in issues associated to the selected business entity as well as processes, sub processes, risks, controls and any other object type record within that entity's hierarchy.

Demo 3

Indirect Join Report

<u>Issue Status by Entity</u>		
	Closed	Open
/Global Financial Services/Asia Pac	2	10
/Global Financial Services/EMEA		7
/Global Financial Services/North America		7

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Demo 3: Indirect Join Report

Purpose:

This demonstration will step you through creating a crosstab report showing the number of Issues contained within each displayed entity, by issue status. This report uses a query join.

Portal: <http://optrainvm/ibmcognos>

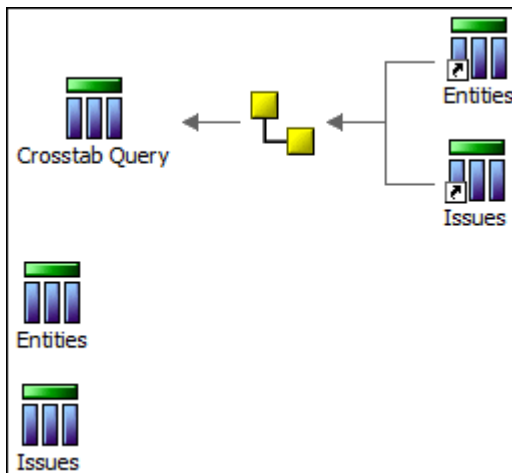
User/Password: **reportauthor/reportauthor**

Studio: **Report Studio**

Package: **OPENPAGES_REPORTS_V6**

Task 1. Set up the query hierarchy.

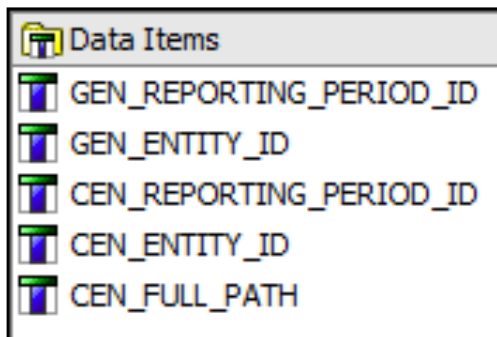
1. In Report Studio, start with a new crosstab report.
2. Create the query structure illustrated below:



3. Set **Auto Group & Summarizer** to **No** for the two queries **Entities** and **Issues**.

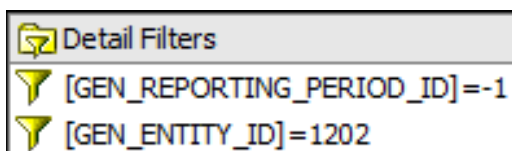
Task 2. Populate two queries.

- Using the namespace DEFAULT_REL, populate the Entities query as follows:
 - GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > ID_FIELDS.

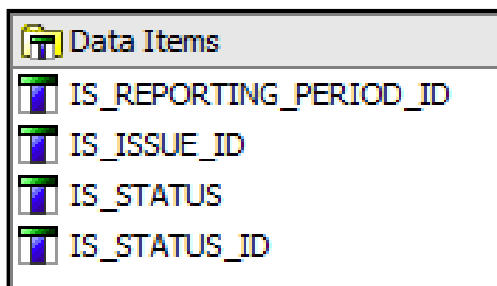


- Create the following detail filters:
 - Current reporting period (use GEN),
 - Starting entity /Global Financial Services (1202).

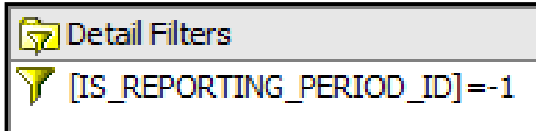
The results appear as follows:



- Test and validate using **View Tabular Data**.
- Populate the Issues query as illustrated below:
 - GRC_OBJECTS_STANDALONE > SOXISSUE.
 - GRC_OBJECTS_STANDALONE > SOXISSUE > ENUMERATION_FIELDS > STATUS (ENUMERATION)



5. Create the detail filter for current reporting period.



6. Test and validate using View Tabular Data.

Task 3. Define the join.

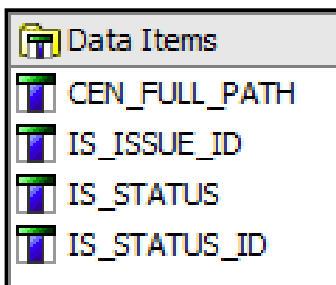
1. Using Query Explorer, open the **Join Relationships** window.
2. Click the **Convert to expression** button.
3. Create the expression:

```
"OP_RPS_AUX.IS_REL_PARENT_CHILD" (
[Entities].[CEN_ENTITY_ID],
[Issues].[IS_ISSUE_ID],
[Entities].[CEN_REPORTING_PERIOD_ID])='Y'

and

[Entities].[CEN_REPORTING_PERIOD_ID]=
[Issues].[IS_REPORTING_PERIOD_ID]
```

4. Populate the **Crosstab Query** as illustrated below:



5. Set both **Aggregate** and **Rollup Aggregate** functions to **None** for each data item.
6. Test using **View Tabular Data**.

Task 4. Populate the crosstab container.

1. Navigate to the **Crosstab** container.
2. Select the crosstab and change the name to **Issue Status Crosstab**.
3. Select the report page body and center it.
4. Set the page title to **Issue Status by Entity**.
5. From the **Crosstab** query add the following:
 - **Left edge:** CEN_FULL_PATH,
 - **Top edge:** IS_STATUS,
 - **Measures:** IS_ISSUE_ID.
6. Click once in the **Measures** (Crosstab Intersection).
7. In the properties ancestor selector, select **Crosstab Fact Cells**.
8. Change **Aggregate Function** to **Count Distinct**.
9. Change **Aggregate Rollup Function** to **Automatic**.
10. Sort the left edge ascending.
11. Select the top-left corner of the crosstab container (Crosstab Corner).
12. Change the **Source Type** property to **Text**.

Task 5. Run the report.

1. Run the report and analyze the results.
2. Note that some rows are rollups of lower entities.
3. If you want to see only the second level entities, do the following:
 - Navigate to the **Entities** query.
 - Expand GRC_OBJECTS > SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC > JOIN_FIELDS.
 - Add G2P_DISTANCE and P2C_DISTANCE to **Data Items**.
 - Create a detail filter like the one shown below:

[G2P_DISTANCE]=1
and
[P2C_DISTANCE]=0

4. Run the report.
5. Save the report as **11-Indirect Join Crosstab** in **My Folders**.

Task 6. Modify the join.

Currently, the join expression returns all issues that are associated to records within a specified entity hierarchy. If you wanted only those issues with a primary association to records within a specified entity hierarchy, you will need to change the join expression.

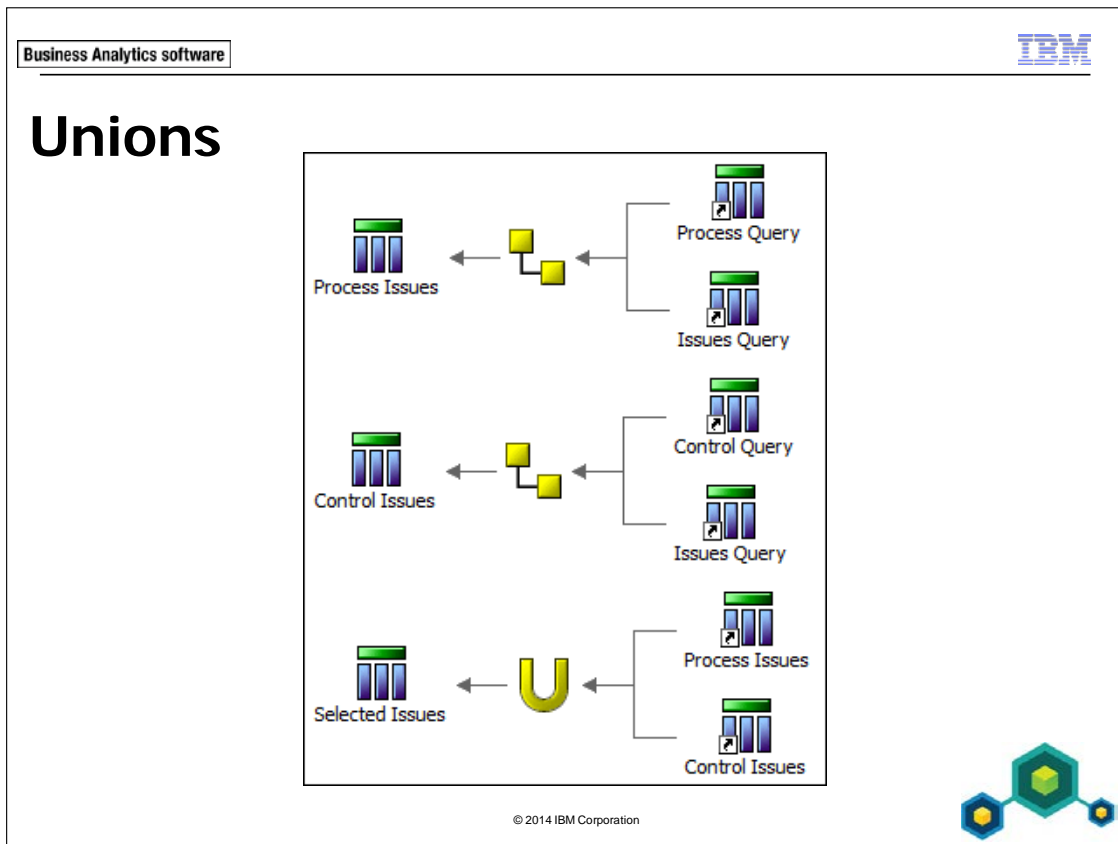
1. Navigate to the **Queries** folder and open the **Join Expression** window.
2. Add one more parameter to the function as shown below:

```
"OP_RPS_AUX.IS_REL_PARENT_CHILD"  
([Entities].[CEN_ENTITY_ID],  
[Issues].[IS_ISSUE_ID],  
[Entities].[CEN_REPORTING_PERIOD_ID],  
'Y')='Y'  
  
and  
  
[Entities].[CEN_REPORTING_PERIOD_ID] = [Issues].[IS_REPORTING_PERIOD_ID]
```

3. Run the report and review the changes, if any.
4. Close Cognos Viewer and save the changes.

Result:

In this demonstration you created a crosstab report showing the number of Issues contained within each displayed entity, by issue status. The report used a query join.



The Union operation results in a longer list report, adding more rows to the report result set.

To add flexibility to secondary object reports, you can add unions to the report. This will let you combine two or more join queries for a more robust result set. In this example, a query with process issues and a query with control issues are combined to create a query that contains issues from both process and control records. The resulting query can be used in a report container to produce a richer report.

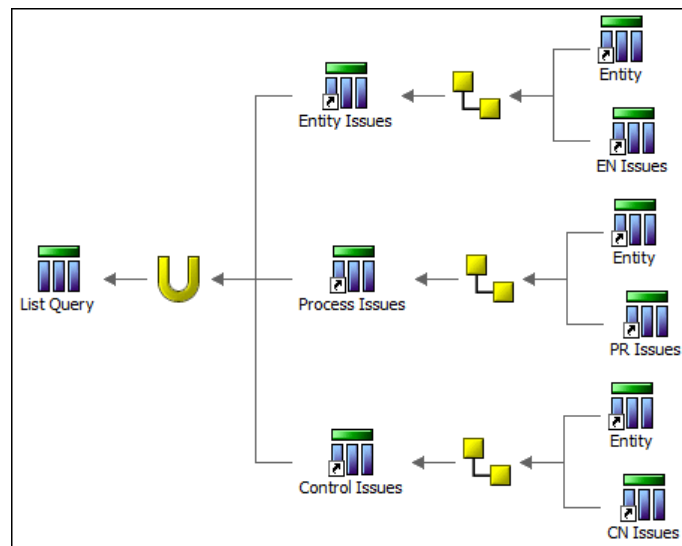
The Union operation can also be used to combine data from two or more namespaces. Or, when a child object type has two or more different parent object types.



Detail filters, and the number of filters, may be different between the two queries. Only the **Data Items** are considered for purposes of matching.

Demo 4

Join and Union Report



Demo 4: Join and Union Report

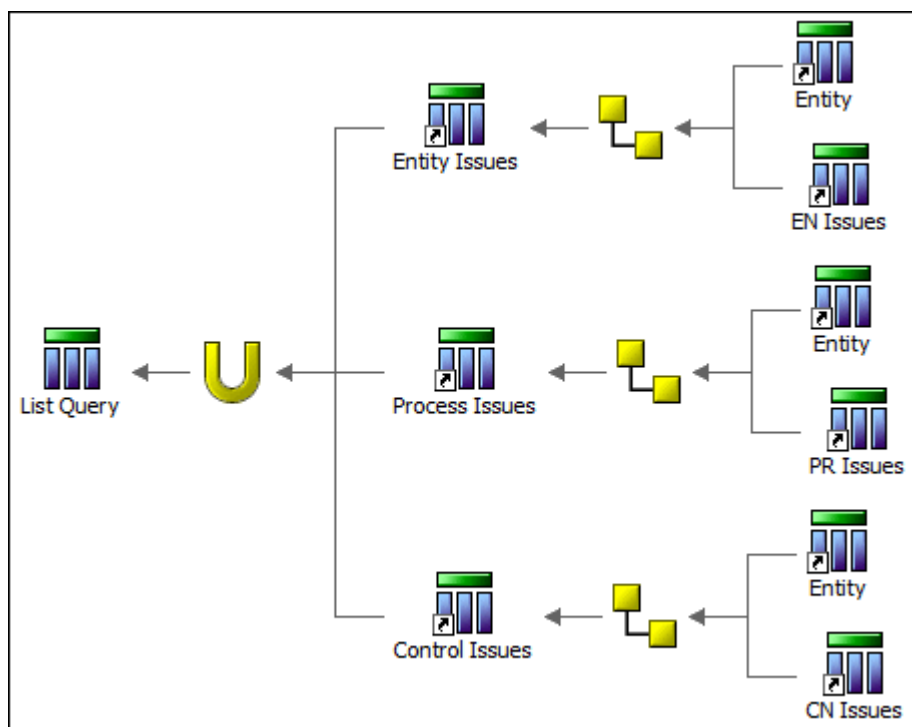
Purpose:

The Risk Management team has requested a report showing issues, along with their action items, associated to entity, process and control records only. You will use the join and union query operations to meet the report requirements.

Portal: <http://optrainvm/ibmcognos>
User/Password: **reportauthor/reportauthor**
Studio: **Report Studio**
Package: **OPENPAGES_REPORTS_V6**

Task 1. Set up the query hierarchy.

1. In Report Studio, start with a new list report.
2. Navigate to the **Queries** folder, using Query Explorer.
3. Select **Query1** and change the name to **List Query**.
4. Right-click the query workspace and select **Expand References**.
5. Create the query hierarchy illustrated below.
 - Set **Auto Group & Summarize** to **No** for queries on the right side of the join operation.
 - When adding the third query to the union operation, drag the query to the bottom of the **Process Issues** query.
 - After creating the first **Entity** query for a join operation, add it to the two remaining join operations; one query being referenced by three join operations.



6. Save the report as **11-Join and Union List** in **My Folders**.

Task 2. Populate Entity query.

1. Navigate to the **Entity** query.
2. Expand **DEFAULT_REL > GRC_OBJECTS** and populate the query as shown here using the following sub folders :

SOXBUSENTITY_FOLDER > SOXBUSENTITY_GPC

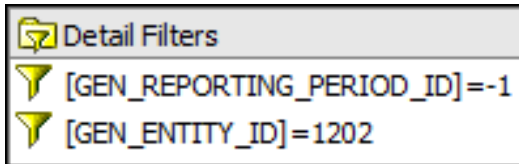
SOXPROCESS

SOXCONTROL

Data Items
GEN_REPORTING_PERIOD_ID
GEN_ENTITY_ID
CEN_ENTITY_ID
CEN_FULL_PATH
CEN_NAME00
PR_PROCESS_ID
PR_NAME00
CN_CONTROL_ID
CN_NAME00

3. Create the following detail filters:
 - current reporting period,
 - starting entity /Global Financial Services (1202).

The results appear as follows:

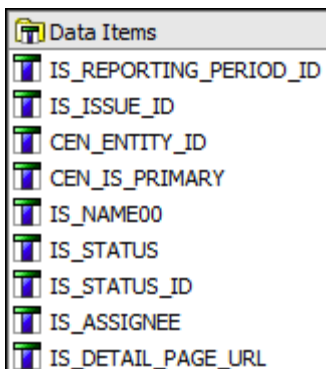


4. Test and validate using **View Tabular Data**.
5. Close Cognos Viewer and save the changes.

Task 3. Populate EN Issues query.

In this task you are creating a query using the SOXIssue query subject. The joins in this report are direct joins, therefore you will need to include query items from the appropriate parent context query subject. Since this is the entity issues query, you will use the SOXBUSENTITY_CHILD parent context folder. In addition, you want to display only the primary parent record information. You will include an IS_PRIMARY query item with which to create a filter to achieve this.

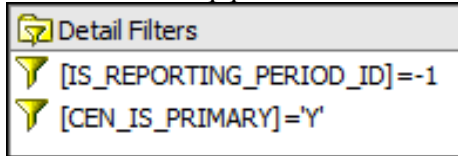
1. Navigate to the **EN Issues** query.
2. Expand DEFAULT_REL > GRC_OBJECTS_STANDALONE > SOXISSUE.
 - Be sure to use PARENT_CONTEXT for the CEN query items.
3. Populate the query as shown here:



4. Create the following detail filters:

- current reporting period,
- parent context is primary.

The results appear as follows:

5. Test and validate using **View Tabular Data**.

6. Close Cognos Viewer and save the changes.

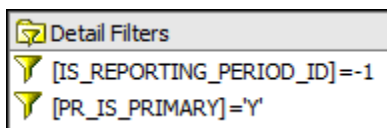
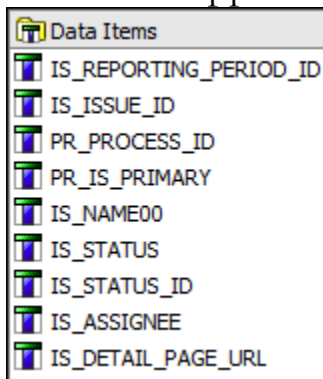
Task 4. Populate PR Issues query.

The three issues queries are nearly identical to each other, the only different being the parent context query items. To speed the process along, you will copy and paste data items between queries in this task. Use the SOXProcess parent context folder.

1. Ctrl-click all of the **IS_** data items in **EN Issues** query. and copy.
2. Navigate to **PR Issues** query and paste.
3. Add the two parent context query items to the query and create the two detail filters.

DEFAULT_REL > GRC_OBJECTS_STANDALONE >
SOXISSUE>PARENT_CONTEXT>SOXPROCESS

The results appear as follows:

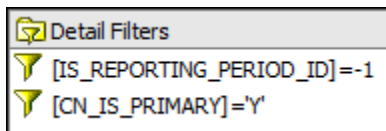
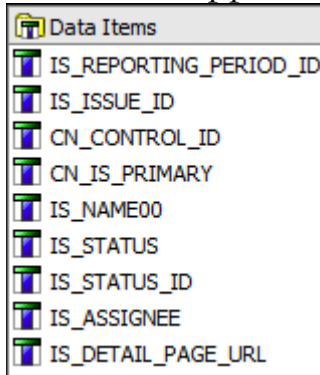
4. Test and validate using **View Tabular Data**.

5. Close Cognos Viewer and save the changes.

Task 5. Populate CN Issues query.

1. Repeat the process used to populate the PR Issues query.
2. Use the SOXControl parent context folder.
 DEFAULT_REL > GRC_OBJECTS_STANDALONE >
 SOXISSUE>PARENT_CONTEXT>SOXCONTROL

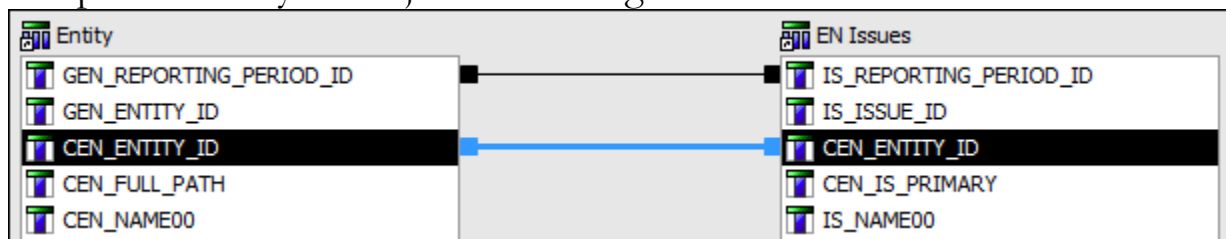
The results appear as follows:



3. Test and validate using **View Tabular Data**.
4. Close Cognos Viewer and save the changes.

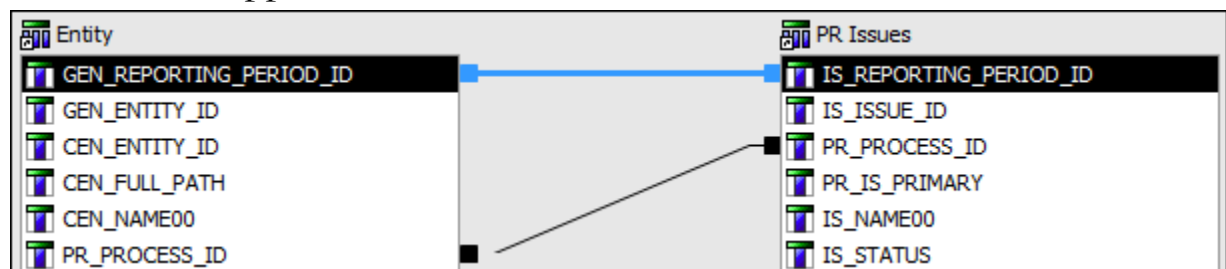
Task 6. Configure join relationships.

1. Navigate to the **Queries** folder in the query explorer.
2. Open the entity issues join and configure the links as shown here:



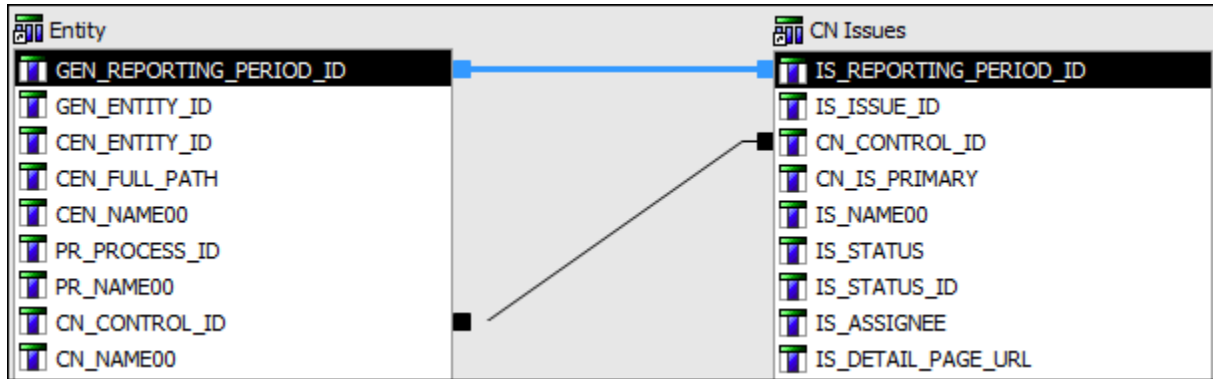
3. Repeat for the process issues join.

The results appear as follows:



- Repeat for the control issues join.

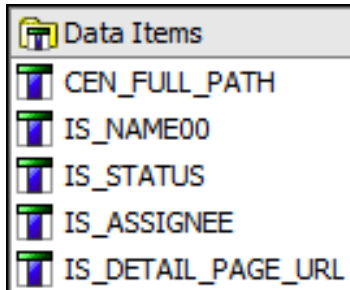
The results appear as follows:



- Save the changes.

Task 7. Populate the join queries.

- Navigate to the **Entity Issues** query and populate as shown here:



- Shift-click to select all five data items and set the aggregate function properties to **None**.
- Navigate to the **Process Issues** query and populate using the same data items.
- Set the aggregate function properties to **None**.
- Navigate to the **Control Issues** query and populate using the same data items.
- Set the aggregate function properties to **None**.
- Test and validate each of the three queries using **View Tabular Data**.
- Save the changes.

Task 8. Populate List Query.

1. Navigate to **List Query**.
2. Shift-click the five data items under **Union1** and drag into the **Data Items** pane.
3. Set the aggregate function properties to **None**.
4. Configure the Label properties for the following:
 - **CEN_FULL_PATH**: Location,
 - **IS_NAME00**: Issue,
 - **IS_STATUS**: Status
5. Add a new data item and create the expression as shown here to correctly display the Issue Assignee:

```
"OP_ACTOR_MGR.GET_DISPLAY_NAME" (
[Union1].[IS_ASSIGNEE],
null,
'%FN; %LN;'
)
```

6. Change the name to **Assignee** and the aggregate function properties to **None**.
7. Save the changes.

Task 9. Populate the list container.

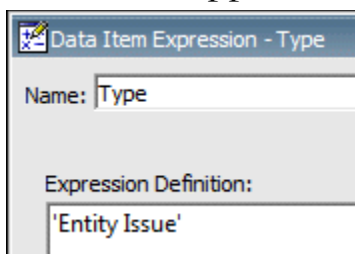
1. Navigate to the list container.
2. Select the List and change the name to **Issues and Action Items List**.
3. Select the report page body and center it.
4. Set the page title to **Issues and Action Items**.
5. From the **List Query**, populate the list container:
 - Location,
 - Issue,
 - Status,
 - Assignee (use the one with the Get Display Name function).
6. Run the report HTML and review the results.
7. Close Cognos Viewer and save the changes.

Task 10. Add parent information.

In this task you will add two data items to display information about the issue record's parent. The parent type and the parent record name. In addition, you will add a data item that will assist in sorting the report for better presentation.

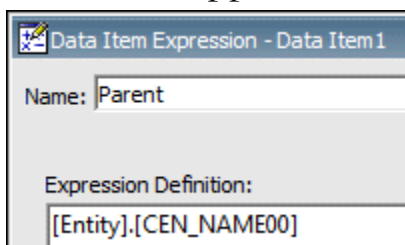
1. Navigate to the **Entity Issues** query.
2. Add a data item to the Data Items pane. This data item will identify the parent type.
 - **Name:** Type,
 - **Expression:** 'Entity Issue'.

The results appear as follows:



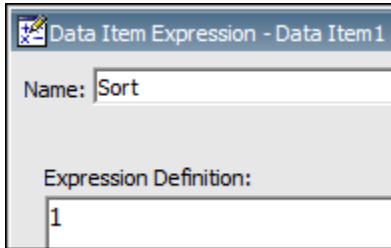
3. Change the aggregate function properties to **None**.
4. Add a data item to the Data Items pane. This data item will display the parent record name.
5. From the **Entity** query, drag CEN_NAME00 into the expression pane and change the name to **Parent**.

The results appear as follows:

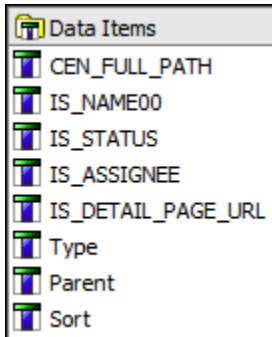


6. Change the aggregate function properties to **None**.
7. Add a data item to the Data Items pane. This data item will contain a number indicating the sort order. You will want entity issues at the top of the list.
 - **Name:** Sort,
 - **Expression:** 1.

The results appear as follows:



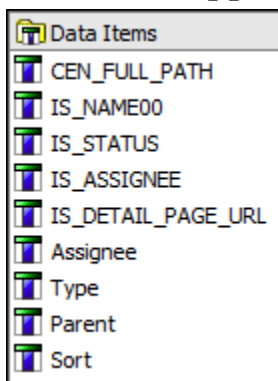
8. Change the aggregate function properties to **None**.
9. The **Entity Issues** data items pane should now look like the following: [



Repeat these steps for the **Process Issues** and **Control Issues** queries. Use the same data item names, in the same order.

10. Use the following values for **Process Issues**:
 - **Type**: 'Process Issue'
 - **Parent**: [Entity].[PR_NAME00]
 - **Sort**: 2
11. Use the following values for **Control Issues**:
 - **Type**: Control Issue'
 - **Parent**: [Entity].[CN_NAME00]
 - **Sort**: 3
12. Navigate to the **List Query** query.
13. From **Union1**, add **Type**, **Parent**, and **Sort** to the Data Items pane.
14. Change the aggregate function properties to **None** for each.

The results appear as follows:



15. Navigate to the list container.
16. Insert **Type** and **Parent** after **Location**.

The results appear as follows:

Location	Type	Parent	Issue
<CEN_FULL_PATH>	<Type>	<Parent>	<IS_NAME00>
<CEN_FULL_PATH>	<Type>	<Parent>	<IS_NAME00>
<CEN_FULL_PATH>	<Type>	<Parent>	<IS_NAME00>

17. Run the report and review.
18. Close Cognos Viewer and save changes.

Task 11. Add Action Item information.

For **EN Issues**, **PR Issues**, and **CN Issues** queries, do the following:

1. Expand DEFAULT_REL > GRC_OBJECTS_STANDALONE > SOXTASK and add the following query items to the Data Item pane:
 - AT_NAME00,
 - AT_ASSIGNEE,
 - AT_DUE_DATE00.

For Entity Issues, Process Issues, and Control Issues queries, do the following:

2. Add the following data items to the Data Items pane:
 - AT_NAME00,
 - AT_ASSIGNEE,
 - AT_DUE_DATE00.
3. Change the aggregate function properties to **None**.

4. Navigate to **List Query**.
5. From **Union1** add the following:
 - AT_NAME00,
 - AT_ASSIGNEE,
 - AT_DUE_DATE00.
6. Change the aggregate function properties to **None**.
7. Change the Label property for the following:
 - **AT_NAME00**: Task,
 - **AT_DUE_DATE00**: Due Date.
8. Add a data item, change the Name to **Task Owner** and create the following expression:

```
"OP_ACTOR_MGR.GET_DISPLAY_NAME" (  
  [Union1].[AT_ASSIGNEE],  
  null,  
  '%FN; %LN; '  
)
```

9. Change the aggregate function properties to **None**.
10. Navigate to the list container and add the following after **Assignee**:
 - Task,
 - Due Date,
 - Task Owner.
11. Run the report HTML and review. Note that the Due Date column is showing time and date stamp.
12. Close Cognos Viewer and save changes.

Task 12. Format the Due Date column.

1. Select the white **List Column Body** cells in the **Due Date** column.
2. Open the **Data Format** property.
3. In the **Format type** field select **Date**.
4. Set **Date Style** field to **Medium** and click **OK**.
5. Run the report and confirm the change to the Due Date column.
6. Save the changes.

Task 13. Format the report.

1. Group the **Location** column.
2. Open the **Headers & Footers** menu in the tool bar and select **List Headers & Footers**.
3. Check the box next to **CEN_FULL_PATH (header)** and click **OK**.
4. Cut the **Location** column.
5. Select any column in the list container and in the properties pane ancestor selector, select **List**.
6. Set **Column Titles** property to **At start of details**.
7. Run the report and review.
 - Note that when the entity location changes a new header appears. You want to force a page break every time the entity location changes.
8. Close Cognos Viewer.
9. Select the **CEN_FULL_PATH List Cell**.
10. In the **Structure** menu select **Set Page Break** and click **OK**.
11. Run the report and review the changes.
 - Note that there is no order to the way the issue records are displayed.
12. Close Cognos Viewer and select the white **Type List Column Body** cell.
13. Open the Sort menu in the tool bar and select **Edit Layout Sorting**.
14. Drag the **Sort** data item into the **Detail Sort List** folder and click **OK**.
15. Run the report and note that on each page, the issue types appear in the order Entity, Process, and then Control.
16. Close Cognos Viewer and save changes.

17. Run the report Excel 2007 and note that there is a separate worksheet for each page of the report.
18. Close Excel.

Task 14. OPTIONAL Add a CrossTrack link.

Add a CrossTrack link to the Issue name column. Refer back to the module *Drill Capabilities* if you need guidance.

Result:

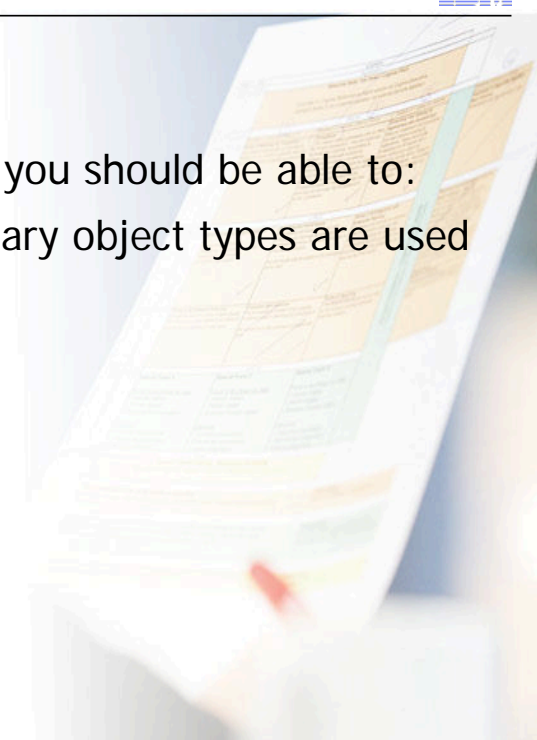
You created an Issues and Action Item report using both joins and a union to meet the requirements.

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Summary

- At the end of this module, you should be able to:
 - understand how secondary object types are used
 - use query joins
 - build Issue reports



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IMPORTANT

Solutions for the demos in this module can be found in:
Public Folders > 1O202 Solution Reports > Module 11.



Using List Headers

IBM OpenPages: Report Authoring (v7.0)

Business Analytics software

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Objectives

- At the end of this module, you should be able to:
 - identify and define the three list headers
 - sub-divide a list header into multiple cells
 - use tables in a list header

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NOTE: If you have not taken the pre-requisite course *IBM Cognos Report Studio: Author Professional Reports Fundamentals (v10.2)* (J2258) you may struggle completing the demonstrations in this module. Allow extra time to complete each demonstration.

Introduction

- The list container contains three header and footer types:
 - list,
 - overall,
 - group.
- These are in addition to the page header and footer and are considered part of the list container.



List Overall Header

- The list overall header appears at the top of a list report on the first page that the report is rendered in PDF, HTML, or Excel.

<u>This Is The Page Header</u>			
<div> <u>This is the List Overall Header</u> This is the List Header </div>			
This is the List Group Header for the Entity Full Path: /Global Financial Services/North America/Commercial Banking			
Loss Event	Actual Loss	Category	Sub Category
LE_06-001	\$120,000	Financial	Direct losses
LE_06-003	\$1,000,000	Legal/Regulatory	Fines
LE_06-016	\$10,200,000	Financial	Direct losses
LE_06-017	\$3,000,000	Legal/Regulatory	Lawsuits/Class action
	\$3,500,000	Brand	Negative media publicity
LE_06-018	\$700,000	Brand	Customer dissatisfaction
This is the List Group Header for the Entity Full Path: /Global Financial Services/North America/Retail Banking			
Loss Event	Actual Loss	Category	Sub Category
LE_06-000	\$500,000	Legal/Regulatory	Fines
	\$1,400,000	Financial	Direct losses
LE_06-002	\$500,000	Financial	Direct losses



List Header

- The list header appears at the top of a list report on each page that the report is rendered in PDF, HTML, or Excel.

This Is The Page Header			
This is the List Overall Header <div>This is the List Header</div>			
This is the List Group Header for the Entity Full Path: /Global Financial Services/North America/Commercial Banking			
Loss Event	Actual Loss	Category	Sub Category
LE_06-001	\$120,000	Financial	Direct losses
LE_06-003	\$1,000,000	Legal/Regulatory	Fines
LE_06-016	\$10,200,000	Financial	Direct losses
LE_06-017	\$3,000,000	Legal/Regulatory	Lawsuits/Class action
	\$3,500,000	Brand	Negative media publicity
LE_06-018	\$700,000	Brand	Customer dissatisfaction
This is the List Group Header for the Entity Full Path: /Global Financial Services/North America/Retail Banking			
Loss Event	Actual Loss	Category	Sub Category
LE_06-000	\$500,000	Legal/Regulatory	Fines
	\$1,400,000	Financial	Direct losses
LE_06-002	\$500,000	Financial	Direct losses



List Group Header

- The list group header appears each time the data for a grouped query item changes within the rendered list in PDF and on each page in HTML or Excel.

<u>This Is The Page Header</u>			
This is the List Overall Header			
This is the List Header			
This is the List Group Header for the Entity Full Path: /Global Financial Services/North America/Commercial Banking			
Loss Event	Actual Loss	Category	Sub Category
LE_06-001	\$120,000	Financial	Direct losses
LE_06-003	\$1,000,000	Legal/Regulatory	Fines
LE_06-016	\$10,200,000	Financial	Direct losses
LE_06-017	\$3,000,000	Legal/Regulatory	Lawsuits/Class action
	\$3,500,000	Brand	Negative media publicity
LE_06-018	\$700,000	Brand	Customer dissatisfaction
This is the List Group Header for the Entity Full Path: /Global Financial Services/North America/Retail Banking			
Loss Event	Actual Loss	Category	Sub Category
LE_06-000	\$500,000	Legal/Regulatory	Fines
	\$1,400,000	Financial	Direct losses
LE_06-002	\$500,000	Financial	Direct losses



Adding Content

- Each header can be split into multiple cells spanning the report.
- The cells can align to the underlying list container columns, or multiple cells can be merged into one.
- A **Table** tool can be added to any header cell providing flexible formatting options.



Demo 1

List Headers

Loss Event Analysis			
This Report Was Run On July 8, 2014			
For Entity: /Global Financial Services/Asia Pac			
Loss Amount: No Minimum			
Commercial Banking		Loss Impact	
Loss Event	Actual Loss	Category	Sub Category
Commercial Banking_LE_0096	400,000	Financial	Direct losses
Commercial Banking_LE_0097	1,500,000	Financial	Direct losses
Commercial Banking_LE_0098	15,000,000	Financial,Brand,Legal/Regulatory	Damaged public perception,Decreased investor , lender, partner confidence,Negative media publicity,Sanctions,Fines
Commercial Banking_LE_0099	10,000,000	Financial	Direct losses
	12,500,000	Financial	Direct losses
	50,000,000	Legal/Regulatory	Fines
Retail Banking		Loss Impact	
Loss Event	Actual Loss	Category	Sub Category
Retail Banking_LE_0100	21,233	Financial	Direct losses
Retail Banking_LE_0101	12,000	Financial	Direct losses

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IMPORTANT

Before starting your first demo, you must prepare the IBM eLabs. Refer to the PDF file, *Preparing For a Demo* which can be downloaded from the **Materials** tab of the eLabs launch site.

Demo 1: List Headers

Purpose:

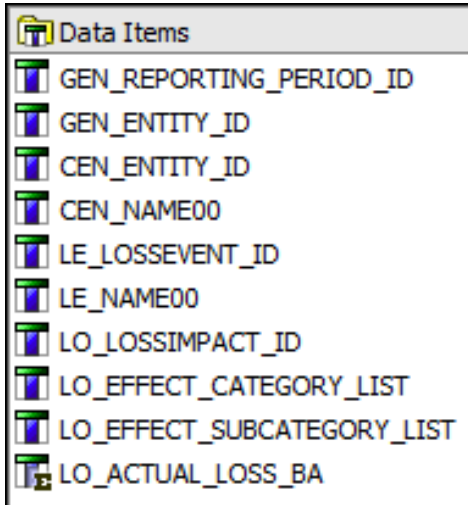
Use the three list headers and one footer to add important information to the report and make the report visually pleasing.

Portal: <http://optrainvm/ibmcognos>
 User/Password: **reportauthor/reportauthor**
 Studio **Report Studio**
 Package: **OPENPAGES_REPORTS_V6**

Task 1. Create a list report.

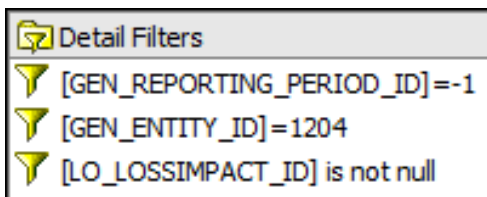
1. In Report Studio, start with a new list report.
2. Navigate to the report's query.
3. Change the **Name** property to **List Query**.
4. Expand the following:
 - DEFAULT_REL > GRC_OBJECTS > SOXBUENTITY_FOLDER > SOXBUENTITY_GPC > ID_FIELDS,
 - GRC_OBJECTS > LOSSEVENT > ID_FIELDS,
 - GRC_OBJECTS > LOSSIMPACT > ID_FIELDS,
 - GRC_OBJECTS > LOSSIMPACT > ENUMERATION_FIELDS > EFFECT_CATEGORY (ENUMERATION),
 - GRC_OBJECTS > LOSSIMPACT > ENUMERATION_FIELDS > EFFECT_SUBCATEGORY (ENUMERATION),
 - GRC_OBJECTS > LOSSIMPACT > CURRENCY_FIELDS > ACTUAL_LOSS (CURRENCY).

5. Add the following query items:



6. Change the **Label** property for the following data items:
- **LE_NAME00**: Loss Event,
 - **LO_ACTUAL_LOSS_BA**: Actual Loss,
 - **LO_EFFECT_CATEGORY_LIST**: Category,
 - **LO_EFFECT_SUBCATEGORY_LIST**: Sub Category.
7. To prevent unwanted aggregations, for the Actual Loss data item, change **Aggregate** and **Rollup Aggregate** functions to None.
8. Add the following detail filters:
- current reporting period,
 - starting entity ID (Asia Pac=1204),
 - is not null using the Loss Impact identifier.

The results appear as follows:



9. Navigate to the list container and add the following data items in order:

- entity name,
- loss event name,
- actual loss amount,
- effect category,
- effect sub-category.

10. Group the following columns:

- entity name,
- loss event name.

The results appear as follows:

CEN_NAME00	Loss Event	Actual Loss	Category	Sub Category
<CEN_NAME00>	<LE_NAME00>	<Actual Loss>	<Category>	<Sub Category>
	<LE_NAME00>	<Actual Loss>	<Category>	<Sub Category>
<CEN_NAME00>	<LE_NAME00>	<Actual Loss>	<Category>	<Sub Category>
	<LE_NAME00>	<Actual Loss>	<Category>	<Sub Category>

11. Center the list container in the page body.

12. Add the Page Header text **Loss Event Analysis**.

13. Run the report HTML, test and validate.

14. Save the report as **12-List Headers** in **My Folders**.

Task 2. Create list headers and footers.

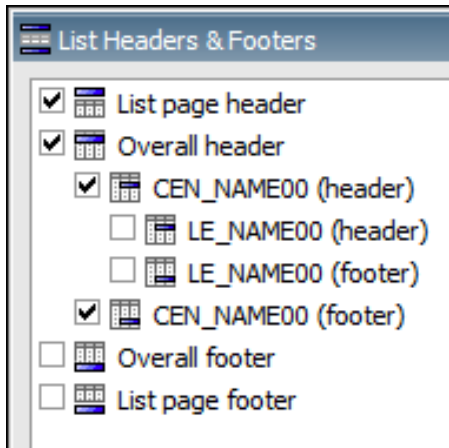
1. Remove the page footer:

- from the **Structure** menu select **Headers & Footers > Page Header & Footer**,
- clear the footer check box.

2. From the **Structure** menu select **Headers & Footers > List Headers & Footers** and select the following:

- list page header,
- overall header,
- entity name header,
- entity name footer.

The results appear as follows:



3. Select any list column.
4. From the Properties pane **Ancestor Selector** select **List**.
5. Change the **Column Titles** property to **At start of details**.

The results appear as follows:

List Page Header		
Overall		
<CEN_NAME00>		
CEN_NAME00	Loss Event	Actual Loss
<CEN_NAME00>	<LE_NAME00>	<Actual Loss>
	<LE_NAME00>	<Actual Loss>

6. Select the List Page Header list cell.
7. From the Properties pane **Ancestor Selector** select **List Page Header**.
8. Change **Display After Overall Header** to **Yes**.
9. Cut the entity name column.

The results appear as follows:

Overall	
List Page Header	
<CEN_NAME00>	
Loss Event	Actual Loss
<LE_NAME00>	<Actual Loss>
<LE_NAME00>	<Actual Loss>

Task 3. Configure the entity group footer.

To format the report for easy viewing you are going to add space between the list containers that occur when the entity name changes.

1. Unlock the report.
2. In the Group Footer, cut the text item.
3. Select the Group Footer list cell.
 - change the background color to transparent,
 - change the border to none,
 - open the Size & Overflow property and set the height to 40 pixels.
4. Run the report HTML, test and validate.

The results appear as follows:

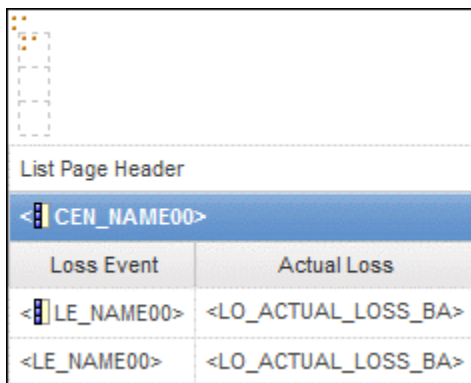
Overall	
List Page Header	
Commercial Banking	
Loss Event	Actual Loss
Commercial Banking_LE_0096	400,000
Commercial Banking_LE_0097	1,500,000
Commercial Banking_LE_0098	15,000,000
Commercial Banking_LE_0099	10,000,000
	12,500,000
	50,000,000
Retail Banking	
Loss Event	Actual Loss
Retail Banking_LE_0100	21,233
Retail Banking_LE_0101	12,000
	75,000

5. Save the changes.

Task 4. Configure overall header.

1. In the Overall Header, delete the **Overall** text item.
2. Select the Overall Header list cell.
 - change the background color to transparent,
 - change the border to none,
 - open the Padding property and set the top margin to 10 pixels,
3. Add a table tool to the Overall Header:

The results appear as follows:



Loss Event	Actual Loss
<LE_NAME00>	<LO_ACTUAL_LOSS_BA>
<LE_NAME00>	<LO_ACTUAL_LOSS_BA>

- center the table in the header.
4. In the top table cell:
 - Add a text item tool and enter "This Report Was Run On ", and click **OK**,
 - be sure to leave a space at the end,
 - Drag a **Date** tool to the right of the text item,
 - Configure the **Data Format** property:
 - **Format Type**: Date,
 - **Date Style**: Long.
 - Select the Table Cell and format following properties:
 - **Font**: bold,
 - **Horizontal Alignment**: Centered.

5. In the bottom table cell:
 - Add a text item tool and enter "For Entity: /Global Financial Services/Asia Pac",
 - Select the Table Cell and format following properties:
 - **Font size:** 10 pt
 - **Horizontal Alignment:** Centered.
6. Run the report HTML, test and validate.
 - Refer to the Demo 1 slide for comparison.
7. Save the changes.

Task 5. Configure the list page header.

1. Select the **List Page Header** list cell:
 - change the Text Source **Text** property to **Loss Amount: No Minimum**,
 - change the border to none,
 - open the Padding property and set the bottom margin to 15 pixels,
 - change the background color to transparent,
 - set the font size to 10 pt,
 - set **Horizontal Alignment** to **Center**.
2. Run the report HTML, test and validate.
 - Refer to the Demo 1 slide for comparison.
3. Save the changes.

Task 6. Configure the entity group header.

1. Select the entity Group Header list cell.
2. Change the background color to transparent.
3. Change the foreground color to black.
4. Click the **Split Cell**  button in the tool bar.

The results appear as follows:

<CEN_NAME00>			
Loss Event	Actual Loss	Category	Sub Category

5. Select the two left cells and click the **Merge Cells**  button.

6. With the merged cells still selected remove the top and left borders.
7. Select the two right cells and click the Merge Cells button.

The results appear as follows:

<CEN_NAME00>			
Loss Event	Actual Loss	Category	Sub Category

8. With the merged cells on the right still selected, open the **Classes** property.
9. In the **Selected classes** pane select **List outer header cell** and click the remove arrow.
10. Click **OK**.
11. With the merged cells on the right still selected, change the background color to custom: **BF D2 E2**.
12. Change the border:
 - **Style:** Solid line,
 - **Width:** ¼ pt,
 - **Color:** Custom **60 8B B4**.
13. Add a text item to the right merged cells and enter **Loss Impact**.
14. Center the text item in the merged cells.
15. Format the text item bold, 9 pt.
16. Lock the report.

Task 7. Configure the list column titles.

1. Select the **Loss Event** list column title.
2. In the properties pane ancestor selector, select **List Columns Title Style**.
3. Change the background color to custom: **BF D2 E2**.
4. Change the border:
 - **Style:** Solid line,
 - **Width:** ¼ pt,
 - **Color:** Custom **60 8B B4**.

Task 8. Configure column widths.

1. Click the white details cells in the Loss Event column.
2. Open **Size & Overflow** property and set width to 20%.
3. Set the width of the **Actual Loss** column to 15%.
4. Set the width of the **Category** column to 30%.
5. Run the report HTML, PDF, and Excel 2007, test and validate.
 - Refer to the Demo 1 slide for comparison.
6. Save the changes.
7. Exit Report Studio, log off, and close all browser windows.

Results:

You created a list report using the three list headers and one footer.

The results of Demo 1 appear similar to the following:

<u>Loss Event Analysis</u>			
<p>This Report Was Run On July 8, 2014 For Entity: /Global Financial Services/Asia Pac Loss Amount: No Minimum</p>			
Commercial Banking		Loss Impact	
Loss Event	Actual Loss	Category	Sub Category
Commercial Banking_LE_0096	400,000	Financial	Direct losses
Commercial Banking_LE_0097	1,500,000	Financial	Direct losses
Commercial Banking_LE_0098	15,000,000	Financial,Brand,Legal/Regulatory	Damaged public perception,Decreased investor, lender, partner confidence,Negative media publicity,Sanctions,Fines
Commercial Banking_LE_0099	10,000,000	Financial	Direct losses
	12,500,000	Financial	Direct losses
	50,000,000	Legal/Regulatory	Fines
Retail Banking		Loss Impact	
Loss Event	Actual Loss	Category	Sub Category
Retail Banking_LE_0100	21,233	Financial	Direct losses
Retail Banking_LE_0101	12,000	Financial	Direct losses

Summary

- At the end of this module, you should be able to:
 - identify and define the three list headers
 - sub-divide a list header into multiple cells
 - use tables in a list header

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IMPORTANT

Solutions for the demos in this module can be found in:
Public Folders > 1O202 Solution Reports > Module 12.

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