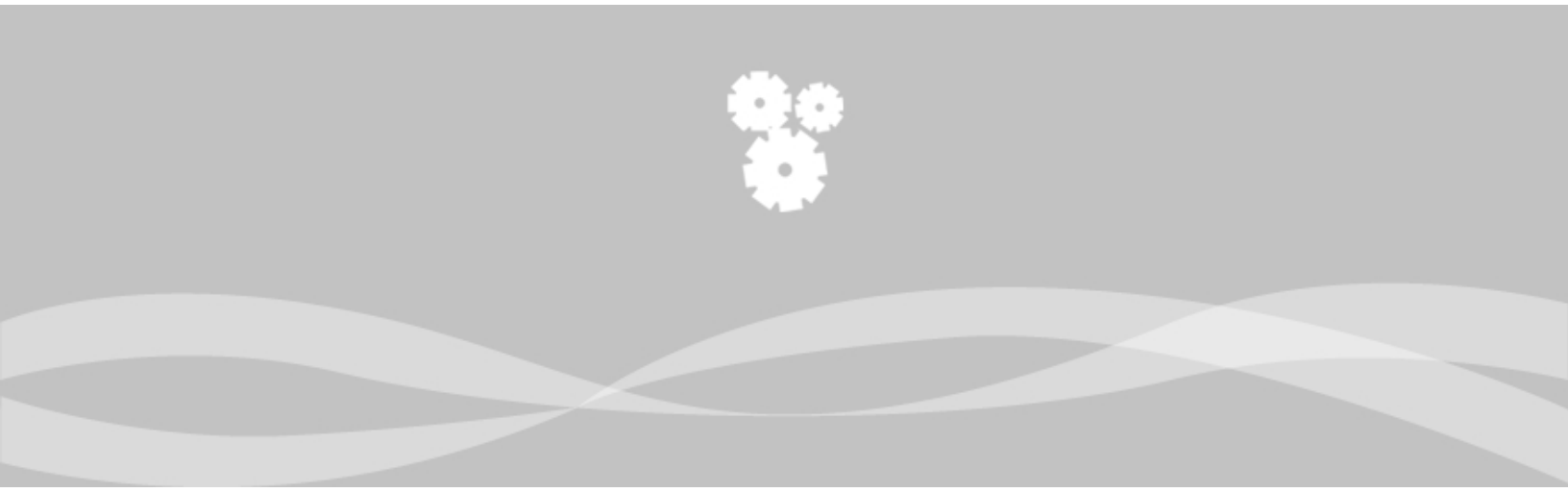
R&D

HARRIS

GOVERN



I00-Reporting-GovernActions

Govern V6

Release 6.0 Version 1

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Overview

A *GovernAction* is a link between a method (InsertData) and a report. *GovernActions* take the form of a report object with a name that has a 'GovernAction' prefix, and value format. The process is similar to an **Insert** or **Update** action in the database. *GovernActions* are executed just prior to **Displaying**, **Exporting**, or **Printing** a report. Users should note that there is no Log, or indication of the running of the GovernAction. If the Govern Action triggers an exception, execution of the report stops, and the error is displayed but it is not handled. The GovernAction is designed to be triggered from any Govern report, but currently the action is only configured through Crystal Reports.

Govern Actions are an efficient way to...

1. Perform an audit on parcels that have been accessed using Crystal Report.
2. Provides a secure, and controlled method of inserting data in tables.
3. Have a report display information on multiple accounts, the report can then generate history information in the table and show new data that has been inserted; this new data is inserted in the (Table: ST_EVENT_HIST)

Our example will display history information in the table. After a Batch Process that inserts data, the report can be run to confirm the records that were updated with data. For each data insert an update is made in the ST_EVENT_HIST table.

NOTE: If the correct report type is not entered, it will not work the method will error out. Errors are not handled.

Functionality

The process is as follows:

1. Connections are overridden and parameters are passed.
2. Report Objects are parsed to retrieve all Govern Actions that are present with the keyword '**GovernAction**'. Parsing is done prior to the report being Displayed, Printed, or Exported, but after connections have been overridden and the parameters passed.
3. Each record in the report will execute any Govern Actions found with their specific value for the record.

Where to run a GovernAction...

A *GovernAction* can be run on any report that can be Displayed, Printed, or Exported in Govern, or in a Batch Process.

NOTE: The eGovern – Self Service Portal (eGov) cannot execute *GovernActions*.

Crystal Reports and the Report

When designing a report that will contain a Govern Action in Crystal Report, an expression will need to be designed. In the expression the following are required to be passed:

- Table name
- Column Names
- Values

The values are inserted into the table; users should note that not all tables can be accessed; there is a list of supported tables. (*See Below*)

Supported Tables

The following table(s) are supported for access with the **InsertData** method.

- ST_EVENT_HIST

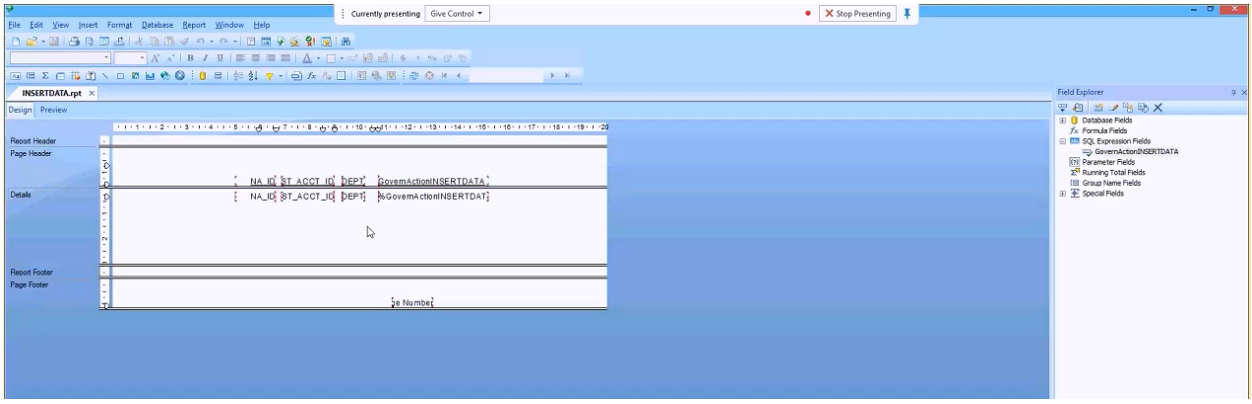
Naming Conventions

1. The naming convention for the report object is as follows:
   GovernAction*NameOfReport* – Where '**GovernAction**' is a required prefix, and '*NameOfReport*' is the report name, (e.g. for a report for Interest Calculation called IntRecalc, the name would be **GovernAction***IntRecalc*)
2. The value of the report object that is returned must match the format of the specified value.

NOTE: The naming convention that uses 'GovernAction' as a prefix is always written in what is referred to as "Camel Case", i.e. using upper and lower case characters. In order for this method to work, it is imperative that the naming convention is maintained.

Preparing the Action in Crystal Report

The following is an example of a report called '**INSERTDATA**'.



GovernAction Setup in Crystal Report

In Crystal Report you will have to define a Govern action. As stated earlier, in Govern we are parsing the report for SQL expressions, the action will then need to be identified by the 'GovernAction' prefix. The Govern Action is configured as '**GovernActionINSERTDATA**', note the use of the 'Camel Case' convention. The identifier '*GovernAction*' is immediately followed by the name of the action, i.e. '**INSERTDATA**', in uppercase,

Example:

```
CONCAT('TABLE=ST_EVENT_HIST;'
       'ST_ACCT_ID=',"ST_MASTER"."ST_ACCT_ID",';',
       'EVENT_TYPE=','Report_Audit;',
       'EVENT_DATE=',{fn CURDATE()},';',
       'EVENT_NOTES=Create with Govern Action INSERTDATA;',
       'EVENT_STATUS=Closed;',
       'EVENT_CLOSED=-1')
```

Note the identified columns, followed by the values that we want to insert. These are strings, with each field separated by a semi-colon. As this is an SQL query, we can use the **CONCAT** function. The query will be evaluated on each record, and the ST_ACCT_ID will be inserted.

Requirements for Crystal Reports

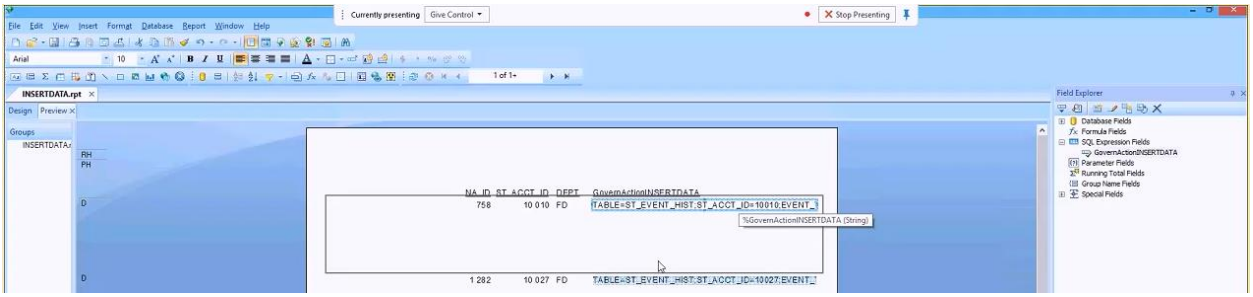
The following is the required way to insert the expression into a Crystal Report.

1. Through the Field Explorer pane, ensure that the expression is in the **SQL Expressions Fields**. (Respect the required nomenclature)
2. Ensure that it is in the **Details** section of the report. If your view the query in the Details section, you will see the following SQL select statement that the report will perform on the database.

```
SELECT "ST_MASTER"."NA_ID","ST_MASTER"."ST_ACCT_ID","ST_MASTER" "DEPT", CONCAT
("TABLE=ST_EVENT_HIST;',
       'EVENT_TYPE=','Report Audit;',
       'EVENT_DATE=',{fn CURDATE()},';',
       'EVENT_NOTES=Create with Govern Action INSERTDATA;',
       'EVENT_STATUS=Closed;',
       'EVENT_CLOSED=-1)
FROM "dataBaseName"."dbo"."ST_MASTER" "ST_MASTER"
```

Previewing in Crystal Report

Click the preview tab in Crystal Report



DEVNOTE: The string that is concatenated with the **CONCAT** function displayed above in the **GovernAction Setup in Crystal Report** section above, is added to the SQL query before executing the Report.

Running the Report

As stated, the action is performed before executing the report. After the report has been run, Crystal Report then sends a final string to Govern for execution.

Format of the String that is sent

The final string of our example that is sent from Crystal Reports to Govern, can be examined in a text editor. The strings takes the following format:

```
TABLE=ST_EVENT_HIST;ST_ACCT_ID=10010;EVENT_TYPE=Report Audit;EVENT_DATE=2016-09-
26;EVENT_NOTES=Create with Govern Action INSERTDATA;EVENT_STATUS=Closed;EVENT_CLOSED=-
1
```

In the string we see the table name, ST_EVENT_HIST, and the columns that that have been affected in that table. Govern will do the following with the string:

1. Receive the string.
2. Build an SQL query with the string.
3. Execute the query.

NOTE: When logging is enabled in Govern, the action will be recorded.

After the design set up of the report in Crystal Reports, the report can be saved. Any additional configuration is performed in the GNA.

Report Setup in the Govern New Administration (GNA)

NOTE: Administrators should always ensure that any reports that are to be configured in GNA are placed in the required directories and paths.

To edit in GNA...

1. On the GNA ribbon, select *Parameters* > *System Parameters (group)* > **Report Parameters Editor**.
2. In the Report Parameter Editor, select the report from the list of Reports.
3. Under the Report tab, configure the report; additionally, if required the report can be configured with a batch process by using the Batch Process Definition Editor.

For details about configuring reports, refer to the GNA 6.0 or greater user guide or the Govern Batch Process 6.0 or greater user guide.

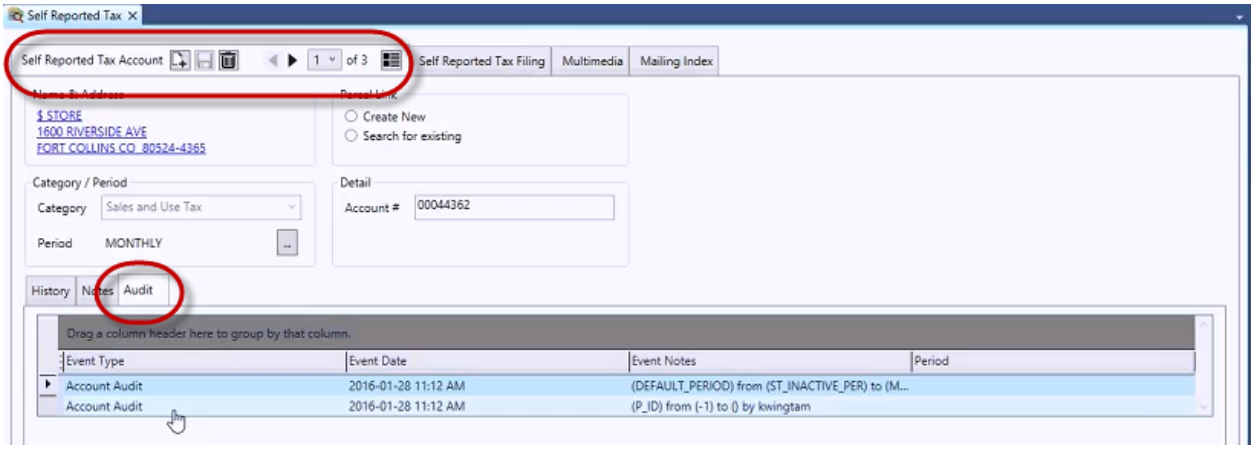
Accessing the Report in Govern

To test the example being used, it will be necessary to launch Govern. After the report has been associated with the profile, it will be accessible.

1. Launch Govern.
2. With the search select records that will be used to test the **GovernAction**.
3. Click the Reports Explorer tab.
4. Launch the report.
5. As the report Criteria Key was set to NA_ID, the report will take the NA_ID's current records that are in the Dataset Treeview.

Related Items

Users should note that in Govern under the Self-Reported Tax Audit form, there is a new tab called Audit. This is an SQL query that is combining data from 3 places. Account Audit, ST Audit, and ST_EVENT_HIST. The ST_EVENT_HIST Table is formatted like the query in Govern.



Use of GovernAction function

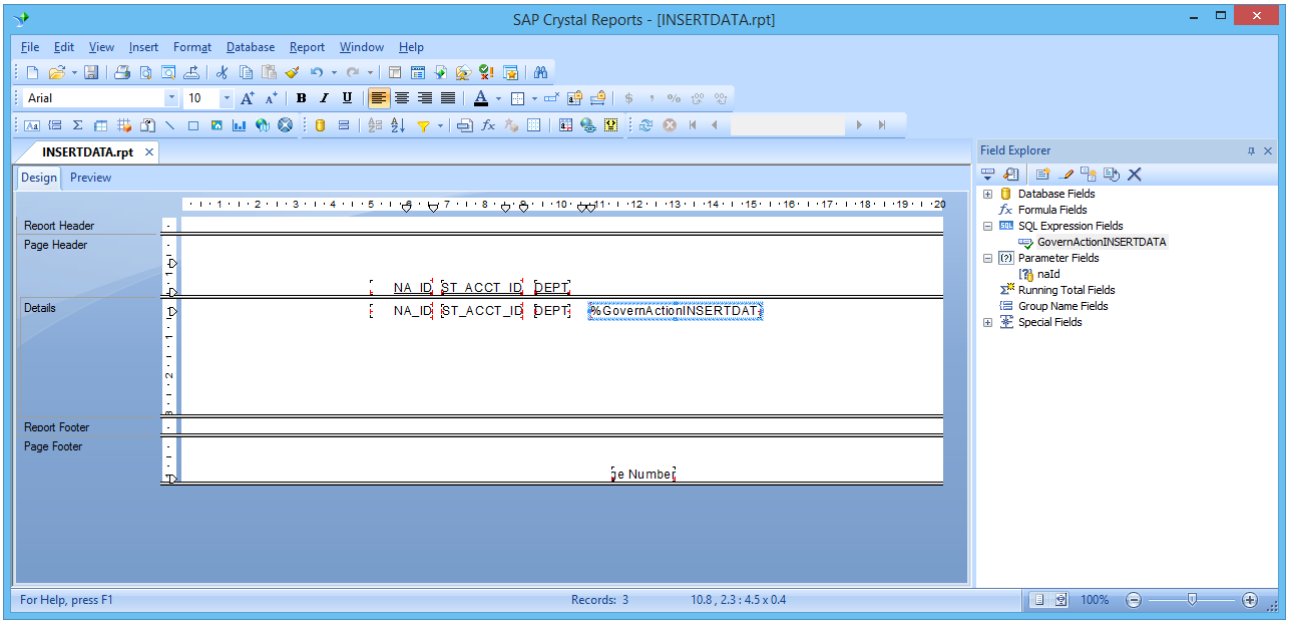
The GovernAction can be useful in situations where data has been modified but users do not necessarily want to rerun their batch process to log updated changes. With the

- Report is generated after a batch process that inserts data
- Report will show the new data that has been inserted
- Report enters a new entry in the ST_EVENT_HIST to allow administrators to know that the data has been changed.

Setup in Crystal Reports

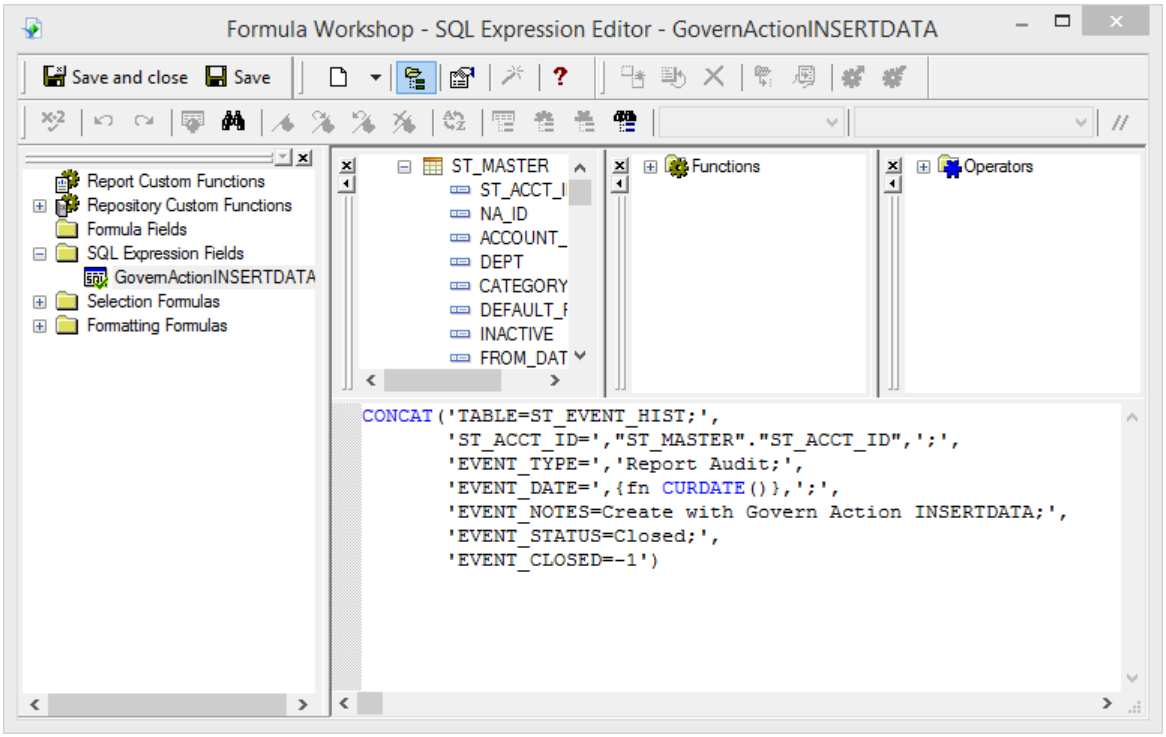
Report Object Type

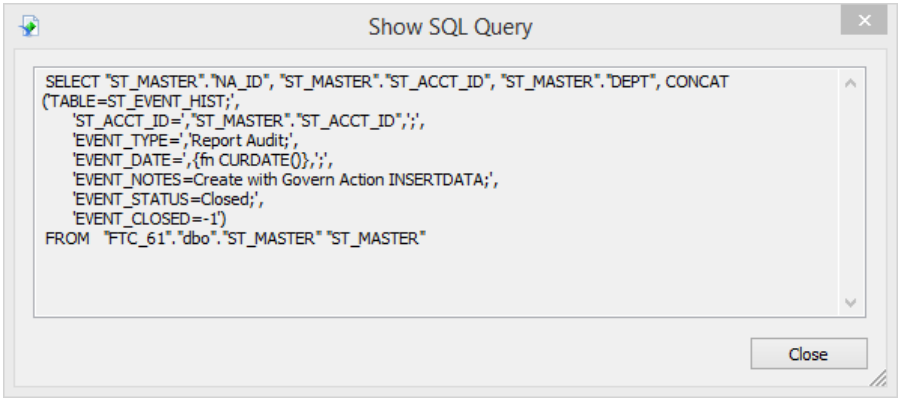
In Crystal Reports you will need to create an **SQL Expression** for each action you wish to be executed. This Object must be added in the **Details** section of the report.


SAP Crystal Reports - [INSERTDATA.rpt]
File Edit View Insert Format Database Report Window Help
INSERTDATA.rpt
Design Preview
Report Header
Page Header
Details
Report Footer
Page Footer
NA_ID ST_ACCT_ID DEPT
NA_ID ST_ACCT_ID DEPT %GovernActionINSERTDAT
Field Explorer
Database Fields
Formula Fields
SQL Expression Fields
GovernActionINSERTDATA
Parameter Fields
naId
Running Total Fields
Group Name Fields
Special Fields
For Help, press F1
Records: 3
100%

Value

You must setup the SQL Expression in a way that it will return a VARCHAR. The SQL Expression is like a SQL SELECT clause, it will be added as a field in the Reports SQL Query.





APPENDIX

Govern Actions

The following is a list of existing actions that are available with GovernActions method:

Insert Data

Name

INSERTDATA

Process

This Govern Action will insert data in a given table. It will use all columns present in the value received.

Available Tables

*The following is a list of all available table(s) for the Govern **Insert Data** Action*

- ST_MASTER_HIST

Table Structure

The following is the structure of the table(s) that can be accessed with the **InsertData** GovernAction.

The structure of the ST_EVENT_HIST table is as follows:

- ST_ACCT_ID
- EVENT_TYPE
- EVENT_STATUS
- EVENT_DATE
- EVENT_CLOSED
- ST_ID
- AR_DETAIL_ID
- EVENT_NOTES

Value Format

The value must be a string with the given format: **TABLE=tablename;COLUMN1=123;COLUMN2=456**

```
Ex:TABLE=ST_EVENT_HIST;ST_ACCT_ID=10010;EVENT_TYPE=Report
Audit;EVENT_DATE=2016-08-25;EVENT_NOTES=Create with Govern Action
INSERTDATA;EVENT_STATUS=Closed;EVENT_CLOSED=-1
```