Elaena Bakman

Email: elaena.bakman@gmail.com
Twitter: @Elaena_Bakman
GitHub: https://github.com/Lenka72/

PASS SQLSATURDAY

SSRS – Thinking Outside the Report

Creative Use of Reports

How SSRS Reports are Used

- SSRS can be used to prepare and deliver various interactive and printed reports.

- Create tabular, graphical and free-form reports from relational, multidimensional and XML based data sources.

- The reports can be published and accessed on demand.

- SSRS also has a built in scheduling tool to perform basic report deployments via email, file share, or SharePoint.
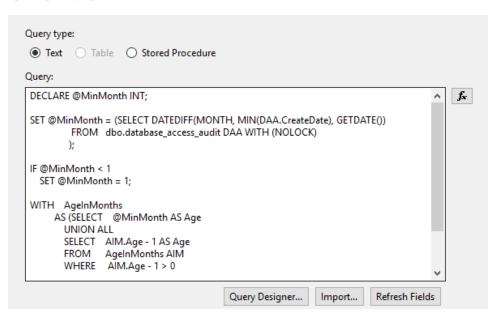
SSRS Datasets

1. Shared datasets - A shared dataset is published on a report server and can be used by multiple reports. A shared dataset must be based on a shared data source. A shared dataset can be cached and scheduled by creating a cache refresh plan.

2. Embedded datasets - Embedded datasets are defined in and used by a single report.

Embedded Datasets

1. Inline SQL


```
Query type:
  ● Text    ○ Table    ○ Stored Procedure
Query:
DECLARE @MinMonth INT;

SET @MinMonth = (SELECT DATEDIFF(MONTH, MIN(DAA.CreateDate), GETDATE())
        FROM   dbo.database_access_audit DAA WITH (NOLOCK)
        );

IF @MinMonth < 1
  SET @MinMonth = 1;

WITH   AgeInMonths
    AS (SELECT    @MinMonth AS Age
        UNION ALL
        SELECT    AIM.Age - 1 AS Age
        FROM      AgeInMonths AIM
        WHERE     AIM.Age - 1 > 0

                                   Query Designer...  Import...  Refresh Fields
```

2. Table

3. Stored Procedures


```
Query type:
  ○ Text    ○ Table    ● Stored Procedure
Select or enter stored procedure name:
usp_database_access_report

                                   Query Designer...  Refresh Fields
```

What can you do in a stored procedure?

Your imagination is the limit...

- Run jobs

- Modify data...

- Run sp_WhoIsActive

- Get the status of your SSIS packages... and run your SSIS packages... find out what was wrong with your package or get the list of parameters that were using during execution.

- Create Audit Reports

- Find out about any indexes that might be missing

- Find out about any unused indexes

The basics or creating a functional report...

1. If your report performs more than one function add a parameter to indicate the type of function you expect to perform. ... and default to Report Only.

2. Make sure you default all your other parameters to NULL unless there is a reason to use something else.

3. If you are making changes through your report consider...
    1. Passing in the User ID
    2. Recording the any jobs you kick off

4. Add a "refresh" button...

5. If you are performing any processes from many different places, create functions, stored procedures or save your code as a template.

6. Your service account running the reports should have the appropriate permissions to do what you need done.

The main report Stored Procedure

The main procedure that runs the report should have:

1. Action Type parameter

2. User Id

3. Security

```sql
62        SET @ApproverAccess = ISNULL(@ApprovedOrNotApproved, @ApproveAll);
63
64        --============================================================================================
65        --==                              This section will handle report security                ==
66        --============================================================================================
67        EXEC @Result = dbo.usp_security_report_level_access @Type
68                                                            ,@UserId
69                                                            ,'Anchor Values By Processing Period'
70                                                            ,@ApproverAccess;
71
72        IF @Result = 0
73              RETURN;
74
75        --============================================================================================
76        --==                              End of Security Section                                  ==
77        --============================================================================================
```

4. Input Validation

```sql
85        IF @Type != 0
86           AND  @ReportDate != @CurrentReportDate
87        BEGIN
88              BEGIN
89                    SET @ErrorMessage = 'Sorry, this action is not valid.  Data chagnes can only be made for the current processing month.';
90
91                    RAISERROR(@ErrorMessage, 16, 1);
92
93                    RETURN;
94              END;
95        END;
```

Demo Time

Adding buttons

There are three ways to create "buttons" in SSRS
1. Table cells
2. Text boxes
3. Images

To make them into a "button", change the following settings in the Action property:
1. Enable as an action: "Go to report"
2. Specify Report: Select the report name from the drop-down (self)
3. Use the parameters to run the report: set the appropriate parameters based on your design.

* Don't forget to default your values when a specific value is not required.

Demo Time

Creating a job

1. Separate the logic of triggering your job and running your report.
2. Create a log.
    1. What ran
    2. Who ran it
    3. When what it run
    4. What was the outcome
    5. What parameters were used
3. Record parameters used.
4. Check if this or dependent job is running.
5. Start job (can start job at different steps).
6. Consider adding a "Starting..." step.
7. Notify users of job status.

Demo Time

Questions?

Follow me...

Email: elaena.bakman@gmail.com
Twitter: @Elaena_Bakman
GitHub: https://github.com/Lenka72/SSRS-Thinking-Outside-the-Report