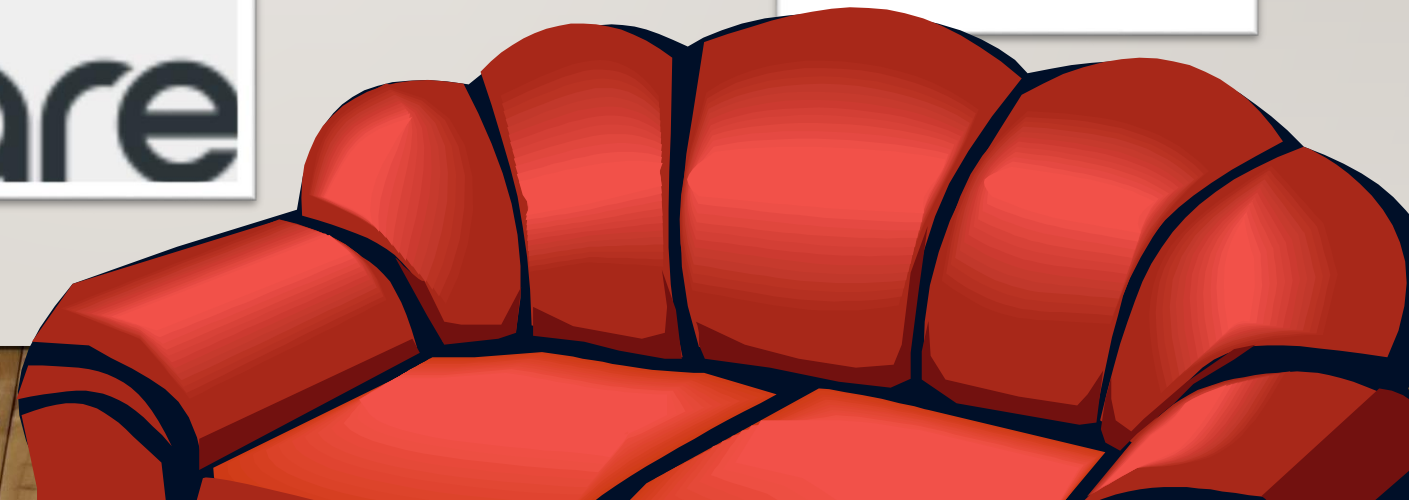


# T-SQL'S HIDDEN SUPPORT FEATURE

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JEN MCCOWN, SOOPER GENIUS





## TODAY'S OUTLINE

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- The Case for Comments
- How to Comment
- Help Systems
- Alternative Commenting



# THE CASE FOR COMMENTS

---





# “HIDDEN SUPPORT FEATURE”?

---

- *Comment (n.) – targeted documentation*



# TRADITIONAL DOCUMENTATION

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- A pain
- Gets out of date
- Nobody reads it
- “Don't need it!”
- “We'll do it when the project is done!”
- “I'll document myself out of a job!”



# COMMENTS > TRADITIONAL DOCUMENTS

---

- People will actually write comments
- Hard to lose, easy to read
- Natural to update





# COMMENTS - YOUR EXOBRAIN

---

## Exobrain

Your exobrain (or exo-brain) is your extended brainpower from the information you have access to from your computer or the web.

This is most commonly used in meetings or on calls when the other people don't know you're using your exobrain to pull random facts or figures.

*I stunned the meeting when I knew that the first person to use the @ symbol for email was Ray Tomlinson by using my exobrain.*

*Thanks exobrain and Google!*

#exo-brain #exo brain #internet #super smart #knowledge

by **Pete DiMaio** February 13, 2009

- UrbanDictionary.com



# COMMENTS - YOUR EXOBRAIN

```
398
399 -----BEGIN Tuning Settings-----
400     --MinionDefault
401     IF @TuningSettingLevel = 0
402     BEGIN --@TuningSettingLevel = 0
403         --Find out whether you're going to be working at the 'All' level or at the override level.
404         ----1 = MinionDefault, BackupType. 0 = MinionDefault, All
405         SET @TuningTypeLevel = ( SELECT COUNT(*)
406                                 FROM   Minion.BackupTuningThresholds
407                                 WHERE  DBName = 'MinionDefault'
408                                     AND BackupType = @BackupType
409                                     AND IsActive = 1
410                                 );
411     END; --@TuningSettingLevel = 0
412
```

- Record the what and why at the time of coding
- Download that **tribal knowledge** directly into your head

# HOW MUCH FASTER CAN WE GET TO KNOW THE CODE?

---

- *Let's try it.*



# `/* HOW TO COMMENT */`

---

-- Flowerboxes, single line, code blocks, BEGIN/END, and implicit



# PLANT A FLOWER BOX

- Source
- Create date
- Purpose
- Modification log

```
1 ALTER PROCEDURE [Minion].[BackupMaster]
2 (
3     @DBType VARCHAR(6) = NULL,
4     @BackupType VARCHAR(4) = NULL,
5     @StmtOnly BIT = 0 ,
6     @Include VARCHAR(2000) = NULL , --Valid values: NULL|Regex|Missing|comma-separated
7     @Exclude VARCHAR(2000) = NULL ,
8     @ReadOnly TINYINT = 1,
9     @Debug BIT = 0
10 )
11 /*****
12
13 Created By: MinionWare LLC. and MidnightDBA.com
14
15 For SQL Server consulting, see our website http://www.MidnightSQL.com
16 No job is too big or too small.
17
18 Also, check out our FREE SQL Server training videos at http://www.MidnightDBA.com
19
20 This is a big routine with many nuances. Our documentation is complete, but if
21 you prefer, we also have videos that show you how to use each of the features.
22 You can find them at http://www.MidnightDBA.com/Minion
23
24 Minion Backup is a free, standalone, backup routine that is a component
25 of the Minion Enterprise Management solution.
26
27 Minion Enterprise is an enterprise management solution that makes managing your
28 SQL Server enterprise super easy. The backup routine folds into the enterprise
```

# PLANT A BETTER FLOWER BOX

- About our organization
- Parameter definitions and values
- Temp table definitions and use
- Example execution statements
- Table of contents

```
46 --Parameters:
47 -----
48 -- @DBType          'System' or 'User'
49
50 -- @BackupType       'Log' or 'Full'
51
52 -- @StmtOnly         Valid options: 1, 0. Excellent choice for running stmts manual
53
54 -- @Include          Backup ONLY the databases listed here.
55 --                  Comma-separated like this : DB1,DB2,DB3
56 --                  Option: use 'All' (or NULL) here to include all databases.
57 --                  (Used in conjunction with @DBType, this will back up all User
58 --                  or System databases.)
59
60 -- @Exclude          Do NOT back up the databases listed here.
61 --                  Comma-separated like this : DB1,DB2,DB3
62
63 -- @ReadOnly         Valid options: 1, 2, 3.
64 --                  1: Include ReadOnly DBs.
65 --                  2: Don't include ReadOnly DBs.
66 --                  3: Only Include ReadOnly DBs.
67
68 --Tables: <review>
69 -----
70 -- #BackupMasterDBs  A read-only temp table that returns the StateDesc,
71 --                  backup order.
72
```

# SINGLE LINE COMMENTS

---

- Notes on each query (as necessary)
- Mark BEGIN and END;
- Comment anywhere!

```
782 IF @TuningSettingLevel = 0
783 BEGIN --@TuningSettingLevel = 0
784
785 --Find out whether you're going to be working at the 'All' level or at the override level.
786 --Level 0 is ALL.
787 IF @TuningTypeLevel = 0
788 BEGIN --@TuningTypeLevel = 0
789     SELECT TOP 1
790         @SpaceType = SpaceType
791     FROM     Minion.BackupTuningThresholds
792     WHERE    ThresholdValue >= 1
793             AND DBName = 'MinionDefault'
794             AND BackupType = 'All'
795             AND IsActive = 1
796     ORDER BY ThresholdValue DESC;
797
798 END; --@TuningTypeLevel = 0
799
```



# MAKE CODE BLOCKS

- Section header and footer
- Visually significant
- Identifies logical blocks of code
- Helps navigation
- Simplifies moving / changing code
- Great place to document code block dependencies

```
378 -----
379 -----
380 -----BEGIN ServerLabel-----
381 -----
382
383 IF @ServerLabel IS NULL
384 BEGIN
385     SET @ServerLabel = @@ServerName;
386 END;
387
388 SET @NETBIOSName = CAST(SERVERPROPERTY('ComputerNamePhysicalNetBIOS') AS
389 SET @IsClustered = CAST(SERVERPROPERTY('IsClustered') AS VARCHAR(128));
390
391 -----
392 -----END ServerLabel-----
393 -----
394
395 -----
396 -----BEGIN Get Misc Settings-----
397 -----
398 -----
```

# BEGIN AND END MARKERS

- Label BEGIN and END with an identifier
- E.g., -- @TuningTypeLevel = 0

```
782 IF @TuningSettingLevel = 0
783 BEGIN --@TuningSettingLevel = 0
784
785 --Find out whether you're going to be working at the 'All' level or at the override level.
786 --Level 0 is ALL.
787 IF @TuningTypeLevel = 0
788 BEGIN --@TuningTypeLevel = 0
789 SELECT TOP 1
790     @SpaceType = SpaceType
791 FROM   Minion.BackupTuningThresholds
792 WHERE  ThresholdValue >= 1
793        AND DBName = 'MinionDefault'
794        AND BackupType = 'All'
795        AND IsActive = 1
796 ORDER BY ThresholdValue DESC;
797
798 END; --@TuningTypeLevel = 0
799
```

# FORMAT: IMPLICIT COMMENTARY

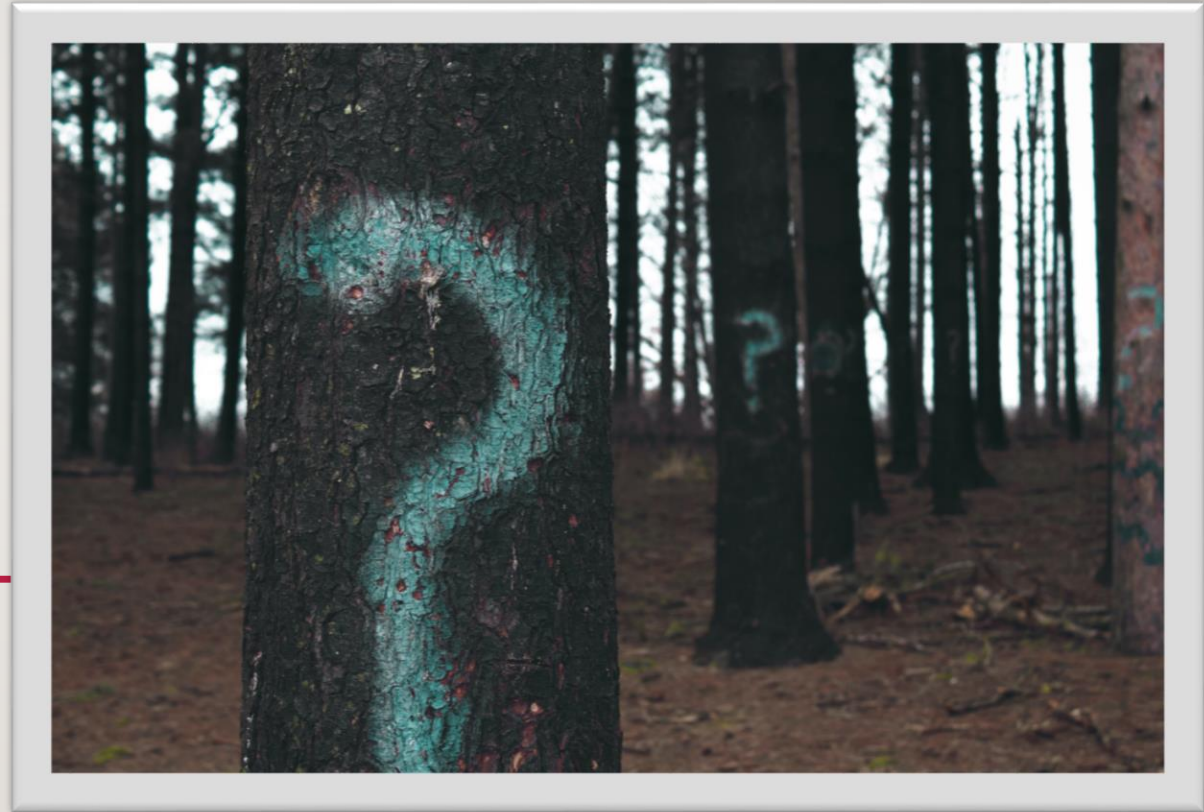
```
355
356 SELECT @Version = LEFT(CAST(SERVERPROPERTY('ProductVersion') AS VARCHAR(15)),
357                          CHARINDEX('.',
358                                    CAST(SERVERPROPERTY('ProductVersion') AS VARCHAR(15)),
359                                    1) - 1);
360 SELECT @Edition = CAST(SERVERPROPERTY('Edition') AS VARCHAR(25));
361
362 IF @Edition LIKE '%Enterprise%'
363 OR @Edition LIKE '%Developer%'
364 BEGIN
365     SET @OnlineEdition = 1;
366 END;
367
368 IF @Edition NOT LIKE '%Enterprise%'
369 AND @Edition NOT LIKE '%Developer%'
370 BEGIN
371     SET @OnlineEdition = 0;
372 END;
373
```



# HELP SYSTEMS

---

*Or, Advanced Commenting*



# HELP – FORMALIZED COMMENTS

---

- Accessible
- Searchable
- Updateable
- Options:
  - @help
  - separate SP
  - both

# HELP SYSTEMS

---

## PRO

- Extensive
- User friendly
- Searchable

## CON

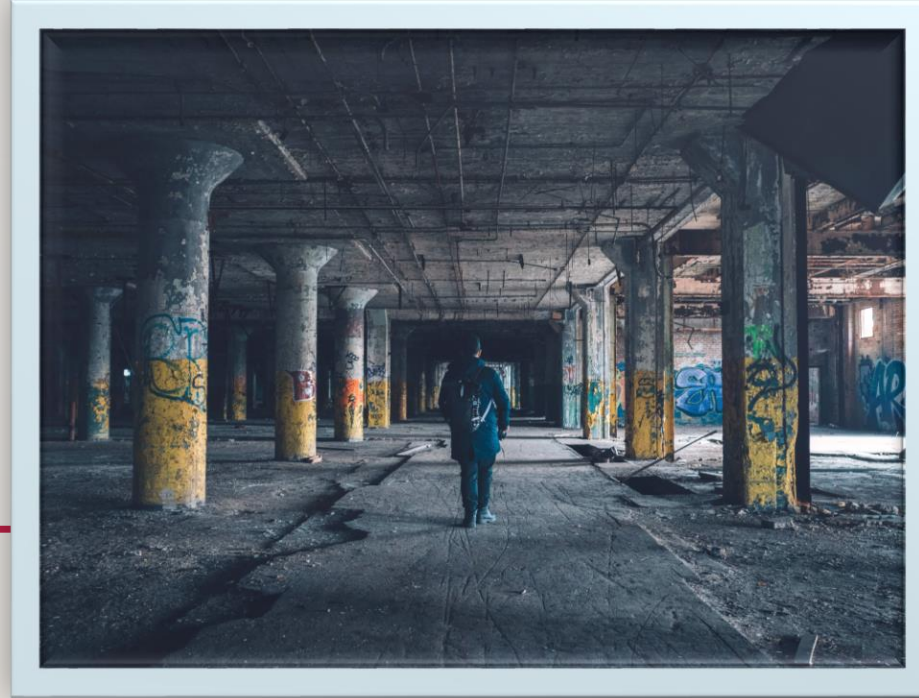
- Extensive – lots to write
- Requires more support (if user-facing)
- Formatting can be **troublesome**, if you get fancy



# ALTERNATIVE COMMENTING

---

When `/* */` just won't do



# EXTENDED PROPERTIES

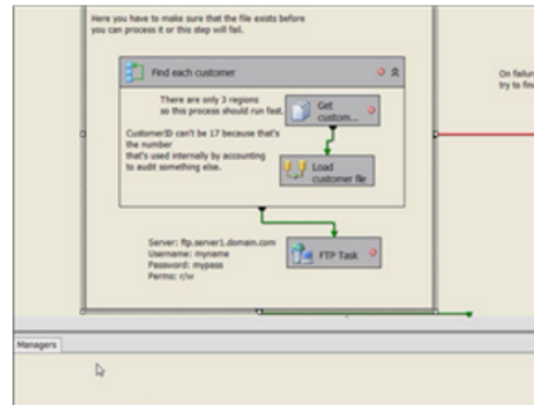
- [illegible]

# SSIS PACKAGES

---

- Use annotations extensively!
- Video at [www.MidnightDBA.com](http://www.MidnightDBA.com) under “Dev” > “SSIS”

## Commenting Tribal Knowledge in SSIS Packages



Filmed: 9/21/2008

Length: 29:24 minutes

There is a lot of tribal knowledge that accumulates in any organization. Here I discuss some ways to document your SSIS packages so you can start to record some of this information. Your packages will be more supportable, easier to update, and you'll take hours or sometimes days off of a re-design or support effort. You won't be sorry you started doing this.

[Click here to watch the video!](#)

[Click here to download the video!](#)

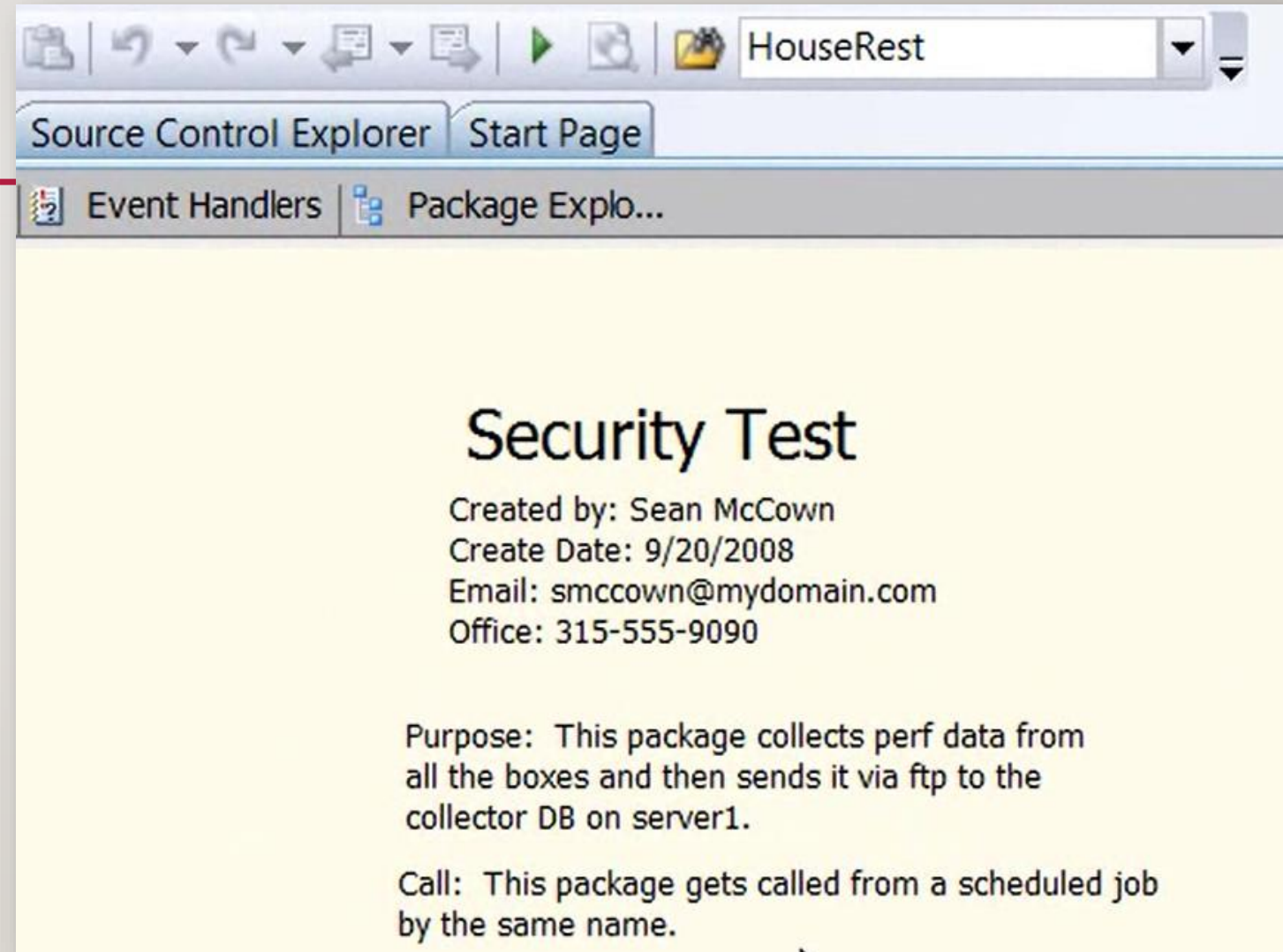


# SSIS: “FLOWER BOX”

- Package Title
- Author info
- Purpose
- Called by
- **Steps**

## Steps:

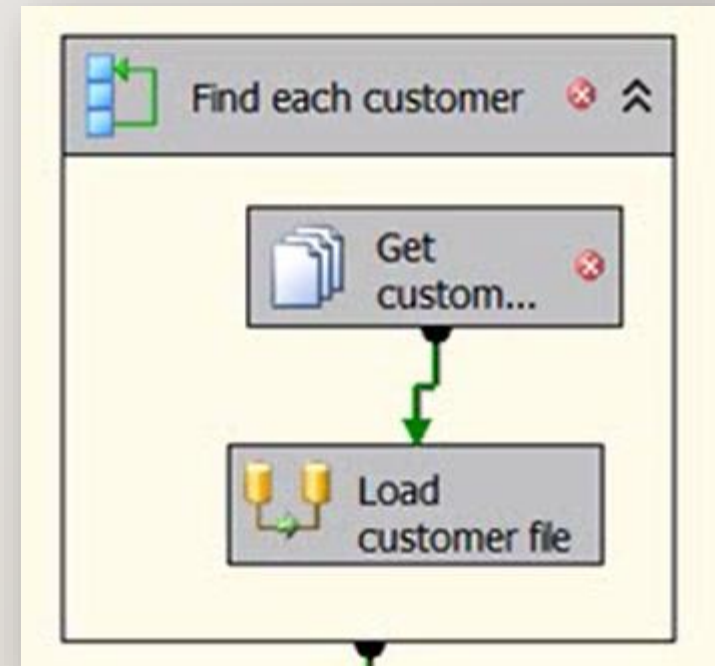
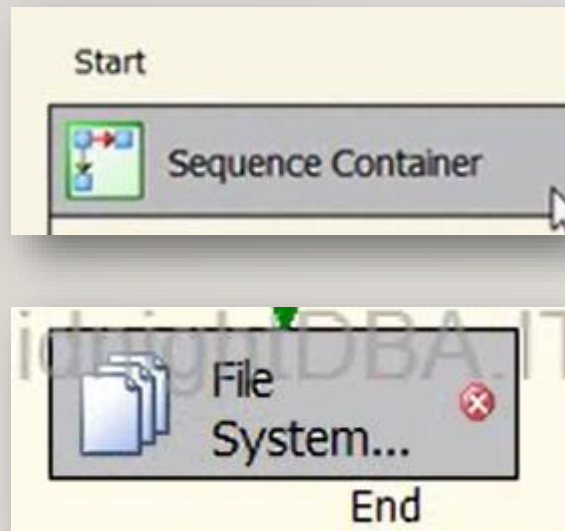
1. Collect data.
2. Send data to ftp.
3. Transform data to fit into collector DB.
4. Insert data.



# SSIS:ANNOTATIONS

---

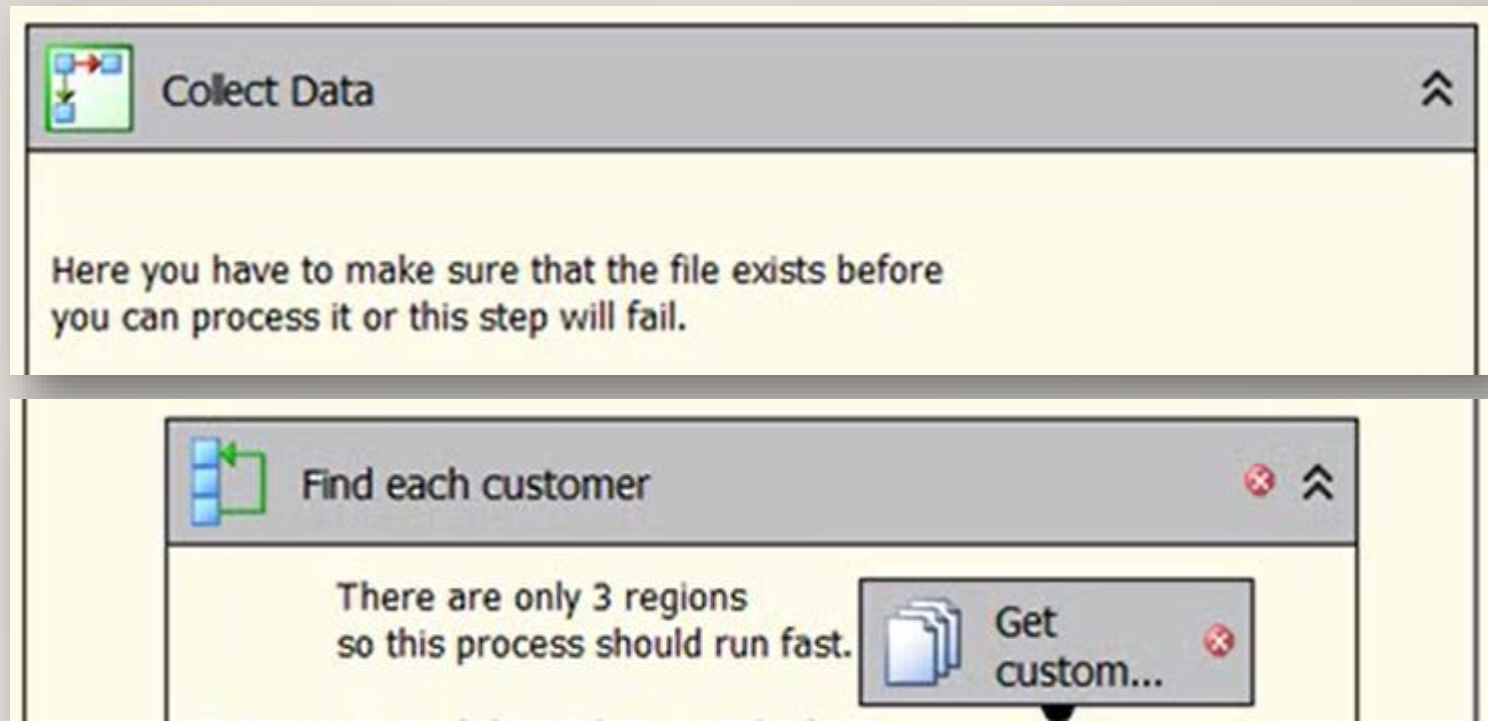
- Name each step something meaningful
- Mark Start and End of the workflow



# SSIS:ANNOTATIONS

---

- Use “line” comments for explanation and tribal knowledge

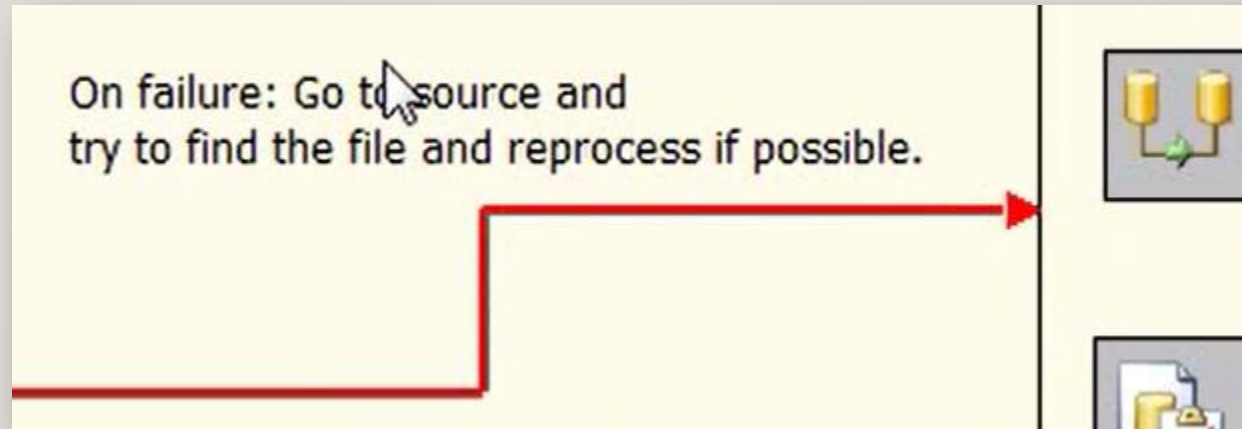




# SSIS: ANNOTATIONS

---

- Mark paths as needed, too



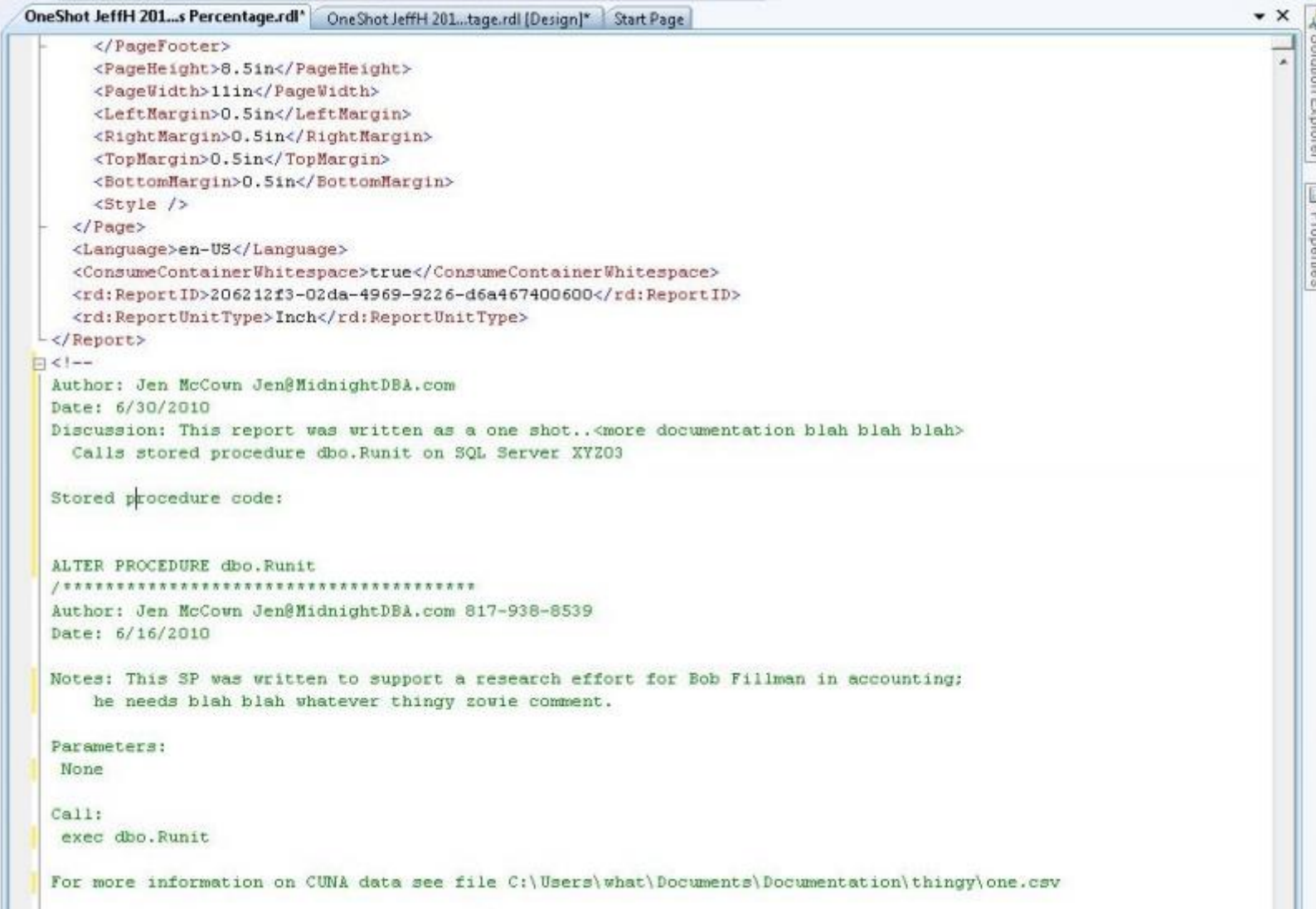
# COMMENTING SSRS

---

- First place to comment: SSRS XML (View > Code)
- Second place to comment: within expressions

# COMMENTING SSRS: XML

- Use `<!-- -->`
- Must be after `</Report>`
- Do not use `--`



The screenshot shows a window titled "OneShot JeffH 201...s Percentage.rdl" with tabs for "Design" and "Start Page". The XML code is displayed in a text area. The code includes standard SSRS report elements like `</PageFooter>`, `<PageHeight>`, `<PageWidth>`, `<LeftMargin>`, `<RightMargin>`, `<TopMargin>`, `<BottomMargin>`, `<Style />`, `</Page>`, `<Language>`, `<ConsumeContainerWhitespace>`, `<rd:ReportID>`, and `<rd:ReportUnitType>`. The `</Report>` tag is followed by a comment block enclosed in `<!--` and `-->`. The comment contains the following text:

```
Author: Jen McCown Jen@MidnightDBA.com
Date: 6/30/2010
Discussion: This report was written as a one shot..<more documentation blah blah blah>
           Calls stored procedure dbo.Runit on SQL Server XYZ03

Stored procedure code:

ALTER PROCEDURE dbo.Runit
/*****
Author: Jen McCown Jen@MidnightDBA.com 817-938-8539
Date: 6/16/2010

Notes: This SP was written to support a research effort for Bob Fillman in accounting;
       he needs blah blah whatever thingy zowie comment.

Parameters:
None

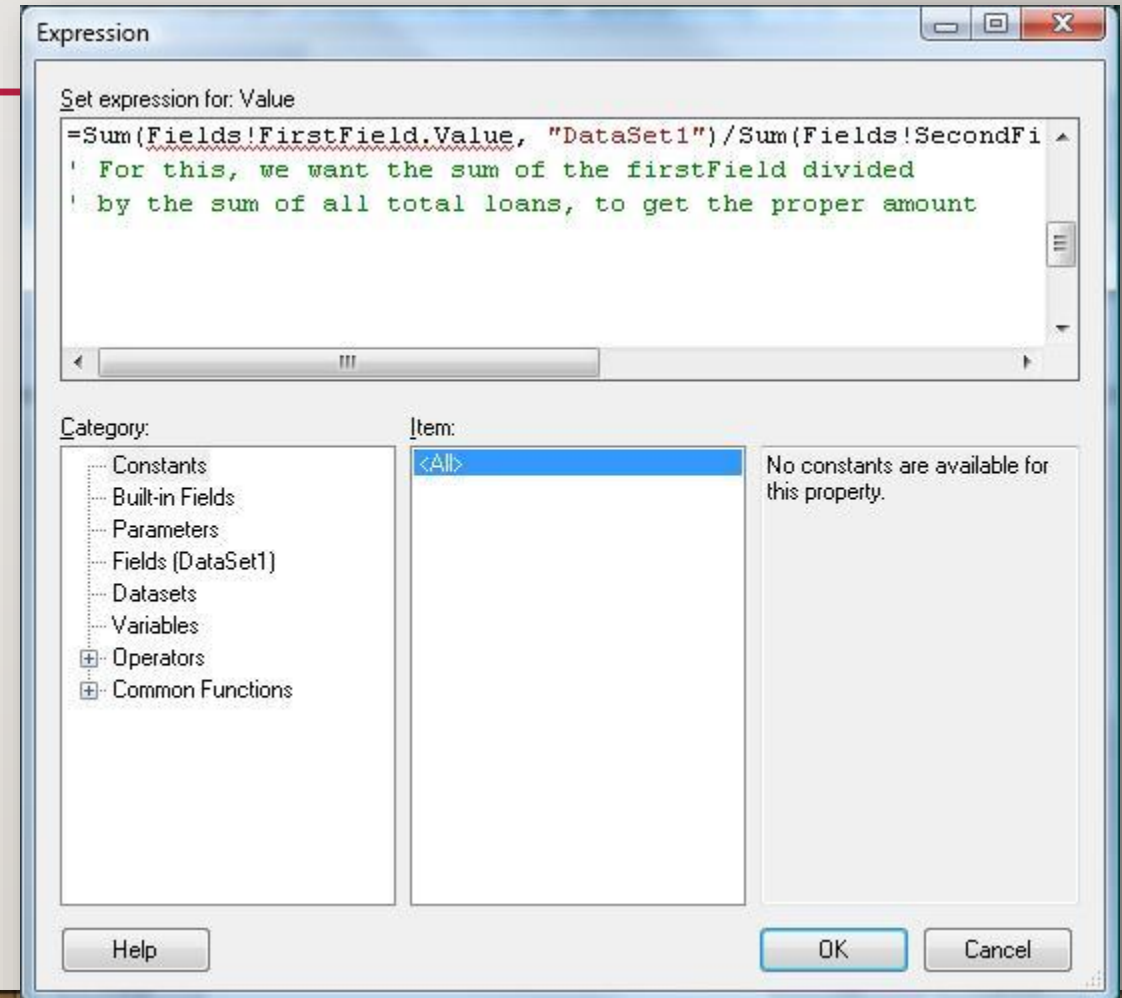
Call:
exec dbo.Runit

For more information on CUNA data see file C:\Users\what\Documents\Documentation\thingy\one.csv
```



# COMMENTING SSRS: EXPRESSIONS

- Use VB comment marker: '
- Limit to the expression at hand.



# SUMMARY

---



# SUMMARY:THE CASE FOR COMMENTS

---

- Comments are documentation.
- Traditional documentation is under-maintained, and underused.
- Comments are easy to write, handy to read, and natural to update.
- You get to know tribal knowledge, fast.



# SUMMARY: HOW TO COMMENT

---

- Flower boxes
- Single line comments on queries
- Label BEGIN and END
- Break code into blocks with comment headers and footers
- Consider a help system
- Use annotations in SSIS
- Use XML comments in SSRS

# RESOURCES

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- This slide deck: [www.SQLSaturday.com](http://www.SQLSaturday.com) (for this event)
- This session recording: <http://midnightdba.itbookworm.com/Events>
- Minion Backup: [www.MinionWare.net/Backup](http://www.MinionWare.net/Backup)
- Commenting SSIS: [midnightdba.itbookworm.com/Video/Watch?VideoId=52](http://midnightdba.itbookworm.com/Video/Watch?VideoId=52)
- Commenting SSRS: [www.midnightdba.com/Jen/2010/07/commenting-ssrs/](http://www.midnightdba.com/Jen/2010/07/commenting-ssrs/)
- Me: [www.Twitter.com/MidnightDBA](http://www.Twitter.com/MidnightDBA)