

Choosing the Right Tool for the Job

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- Worked with MS Data Platform for over 20 years
- Speaker Idol Winner 2019
- Microsoft MVP – Data Platform
- Friend of Redgate
- Alter Ego = Amateur Musician

Why talk about tools?

- Many options are available.
- We don't always get a chance to explore what's available in the middle of trying to get work done.
- They can help us be more productive.

What are we trying to do?

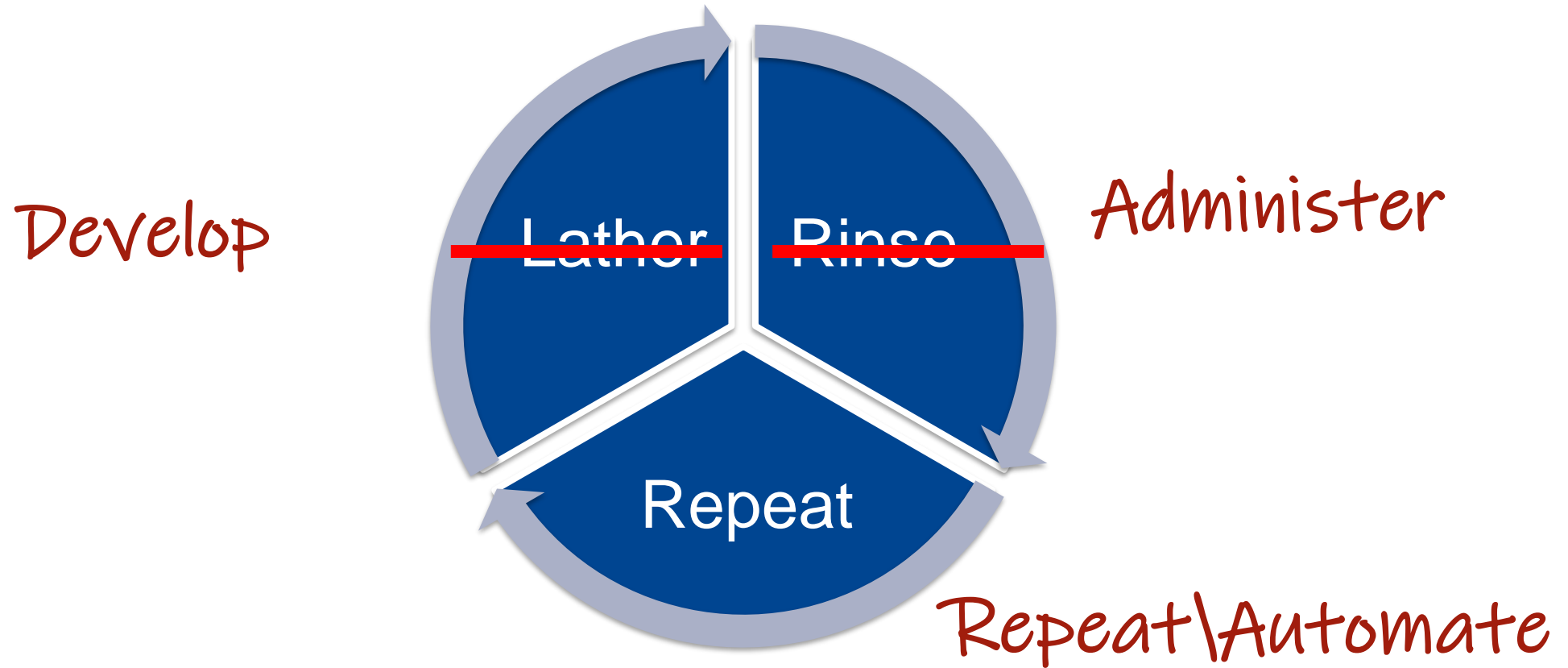
a.k.a. Job functions

The “Data Lifecycle”:

- Create
- Tune
- Monitor
- Deploy
- Secure
- Source Control
- Manipulate
- Administer
- Destroy
- Validate

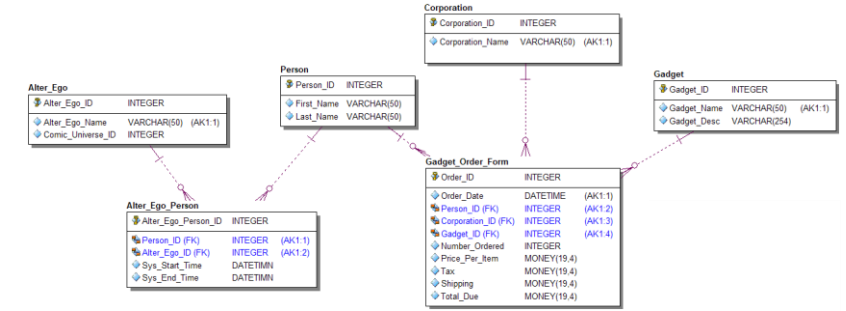


Let's break it down differently...



Develop

- Create objects
 - Tables
 - Views
 - Stored Procs
- Performance Tune
 - Execution Plans
- ETL Loads
- Reports



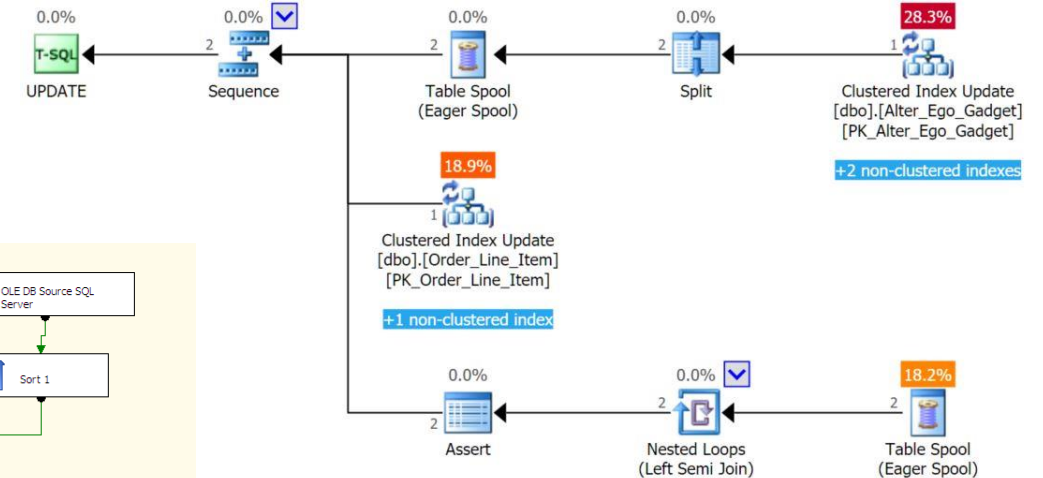
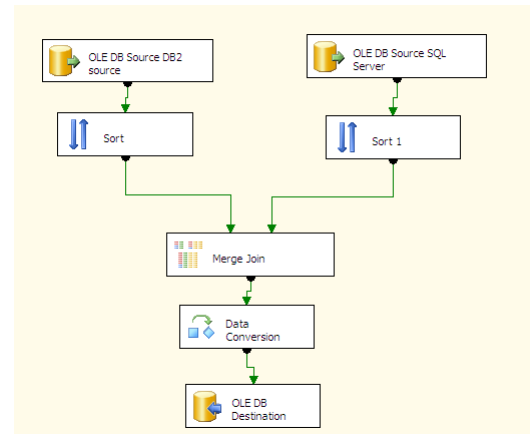
```

CREATE TRIGGER TR_Alter_Ego_Insert ON Alter_Ego INSTEAD OF UPDATE
AS BEGIN

DECLARE @corp_id int
SELECT @corp_id = Corporation_ID FROM Corporation WHERE Corporation_Name = 'Stark Industries'

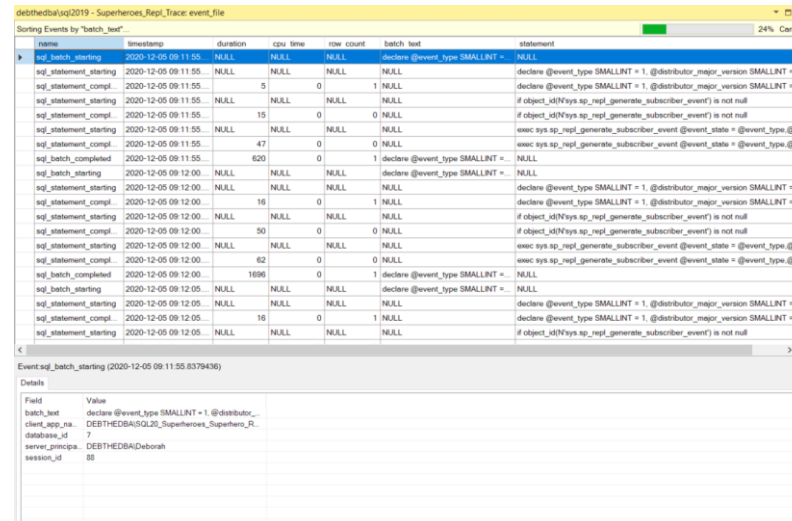
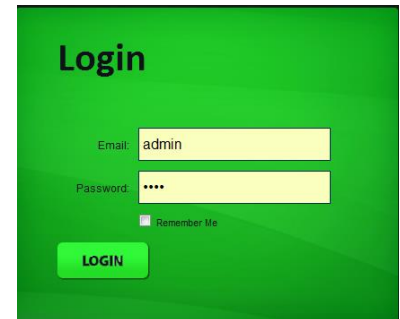
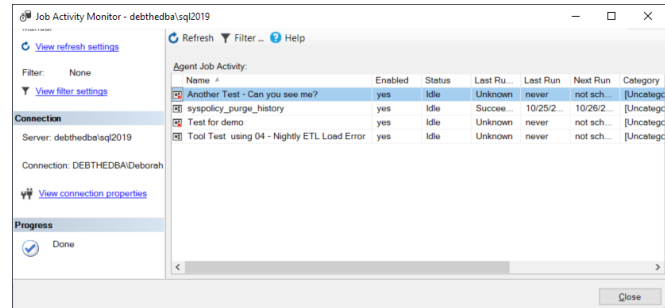
INSERT INTO Employment (Person_ID, Corporation_ID, Corporate_Position_ID, From_Date)
SELECT ins.Person_ID, @corp_id, cp.Corporate_Position_ID, getdate()
FROM Corporate_Position cp
JOIN inserted as ins ON cp.Corporate_Position_Name = ins.Alter_Ego_Name

END
GO
  
```



Administer

- Configure
- Backup and Restore
- High Availability \Disaster Recovery
- Security
 - Logins & Users
- Jobs
- Monitor



The screenshot shows a query result in SQL Server Enterprise Manager. The query is 'SELECT * FROM batch_test'. The result is a table with columns: name, timestamp, duration, cpu time, row count, batch text, and statement. The data is sorted by 'batch_text'.

name	timestamp	duration	cpu time	row count	batch text	statement
sql_batch_starting	2020-12-05 09:11:55	NULL	NULL	NULL	declare @event_type SMALLINT =	NULL
sql_statement_starting	2020-12-05 09:11:55	NULL	NULL	NULL	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =
sql_statement_compl...	2020-12-05 09:11:55	5	0	1	NULL	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =
sql_statement_starting	2020-12-05 09:11:55	NULL	NULL	NULL	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null
sql_statement_compl...	2020-12-05 09:11:55	15	0	0	NULL	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null
sql_statement_starting	2020-12-05 09:11:55	NULL	NULL	NULL	exec sys.sp_rep_generate_subscriber_event @event_state = @event_type @	exec sys.sp_rep_generate_subscriber_event @event_state = @event_type @
sql_statement_compl...	2020-12-05 09:11:55	47	0	0	NULL	exec sys.sp_rep_generate_subscriber_event @event_state = @event_type @
sql_batch_completed	2020-12-05 09:11:55	620	0	1	declare @event_type SMALLINT =	NULL
sql_batch_starting	2020-12-05 09:12:00	NULL	NULL	NULL	declare @event_type SMALLINT =	NULL
sql_statement_starting	2020-12-05 09:12:00	NULL	NULL	NULL	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =
sql_statement_compl...	2020-12-05 09:12:00	16	0	1	NULL	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =
sql_statement_starting	2020-12-05 09:12:00	NULL	NULL	NULL	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null
sql_statement_compl...	2020-12-05 09:12:00	50	0	0	NULL	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null
sql_statement_starting	2020-12-05 09:12:00	NULL	NULL	NULL	exec sys.sp_rep_generate_subscriber_event @event_state = @event_type @	exec sys.sp_rep_generate_subscriber_event @event_state = @event_type @
sql_statement_compl...	2020-12-05 09:12:00	62	0	0	NULL	exec sys.sp_rep_generate_subscriber_event @event_state = @event_type @
sql_batch_completed	2020-12-05 09:12:00	1696	0	1	declare @event_type SMALLINT =	NULL
sql_batch_starting	2020-12-05 09:12:05	NULL	NULL	NULL	declare @event_type SMALLINT =	NULL
sql_statement_starting	2020-12-05 09:12:05	NULL	NULL	NULL	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =
sql_statement_compl...	2020-12-05 09:12:05	16	0	1	NULL	declare @event_type SMALLINT = 1, @distributor_major_version SMALLINT =
sql_statement_starting	2020-12-05 09:12:05	NULL	NULL	NULL	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null	if object_id(Nsys.sp_rep_generate_subscriber_event) is not null

Event: sql_batch_starting (2020-12-05 09:11:55.8379436)

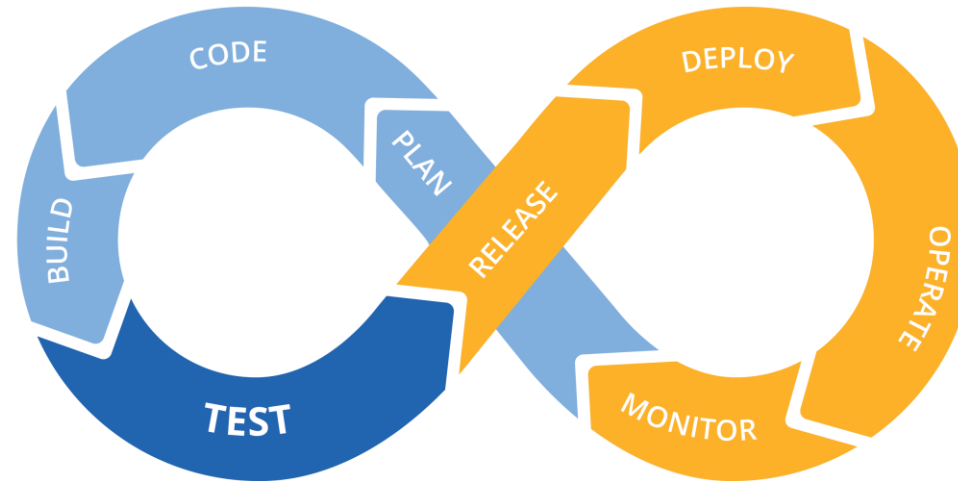
Details

Field	Value
batch_text	declare @event_type SMALLINT = 1, @distributor...
client_app_na...	DEBTHEDBA/SQL20_Superheroes_Superhero_R...
database_id	7
server_principa...	DEBTHEDBA/Deborah
session_id	88

Automate



- Release Process
 - CI/CD (Continuous Integration/Continuous Deploy)
 - Migration vs State Based (dacpacs\bacpacs)
 - Source Control
- Runbooks



How do we choose which tools to use?

Let's take a look....



Summary









Tools and the Functions They Do Best (or Worse)

Tool	Develop	Administer	Automate
Management Studio	✓	✓	✗
Visual Studio	✓	✗	✓
Azure Data Studio	✓	?	✓
VS Code	✓	✗	✓
Plan Explorer	✓	✗	✗

Tools and the Functions They Do Best

(or Worse) (cont'd)

Tool	Develop	Administer	Automate
dbatools			
Notebooks			

Takeaways

- If functionality is not there by default, check to see if there's an extension that needs to be installed.
- You may need more than 1 tool. That's OK.
- Keep an eye out for updates.
- Where do you spend most of your time during the “data lifecycle”?

Resources

- Azure Data Studio
- VS Code
 - <https://vscode.dev/>
- Visual Studio Data Tools
- Microsoft Documentation
 - Database Projects
 - Dacpacs

Resources Cont'd

- dbatools.io
- [SSMS Tools Pack](#) by Mladen Prajdić
- Andy Mallon's [SSMS & ADS Shortcuts cheat sheet](#)
- [Widgets in ADS](#) (Tracy Boggiano)

Any questions?

Let me know!

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