



PowerShell Conference Europe

How We Provided A dbatools Training Day at SQLBits using devcontainers

Jess Pomfret and Rob Sewell



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Many thanks to our sponsors:



@jpomfret @sqlbawithbeard

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She/Her

Jess Pomfret

Database Platform Architect
Data Masterminds

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-  • @jpomfret
-  • jesspomfret.com

Passionate about

- Automation
- Proper Football
- Fitness

beard.media/book
dbatools
dbachecks
PowerShell & Data Community



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He/Him

Rob Sewell

Consultant
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-  • /robsewellsqldb
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• Bearded Consultant, Automator,
• Trainer

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PowerShell & Data Community



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SQLBits 2022



- Hybrid Event with in-person at the Excel Centre London



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SQLBits 2022 at a glance

This year's conference will be held both digitally and in-person.

Day	Date	Type	Count
Tuesday	8 MARCH 2022	Training Sessions	17 full-day training sessions
Wednesday	9 MARCH 2022	Training Sessions	17 full-day training sessions
Thursday	10 MARCH 2022	General Sessions	96 general sessions
Friday	11 MARCH 2022	General Sessions	96 general sessions
Saturday	12 MARCH 2022	Free to Attend General Sessions	96 general sessions

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SQLBits 2022

- A whole day training on dbatools 😊

Attendees	Description
70 remote attendees	<p>Rob Sewell Jess Pomfret</p> <p>Automate your DBA tasks with dbatools and dbachecks</p> <p>Let us show you how easy it is to use PowerShell to accomplish many everyday tasks straight from the command line with the community developed modules dbatools and dbachecks.</p> <p>Join Jess Pomfret and Rob Sewell, two of the dbatools in a Month of Lunches authors and take your dbatools and dbachecks skills to the next level or be introduced to dbatools and learn how effective it can make you. We will show you the skills, scripts, and tricks that we have learned with dbatools and dbachecks and tell you how they have rocketed our careers</p> <p>There will be many practical examples of how dbatools and dbachecks can help to save time in DBA administration duties</p>
30 in-person attendees	

[@jpomfret @sqldbawithbeard](#)

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SQLBits 2022

- A whole day training on dbatools

1
remote
presenter

1
in-person
presenter

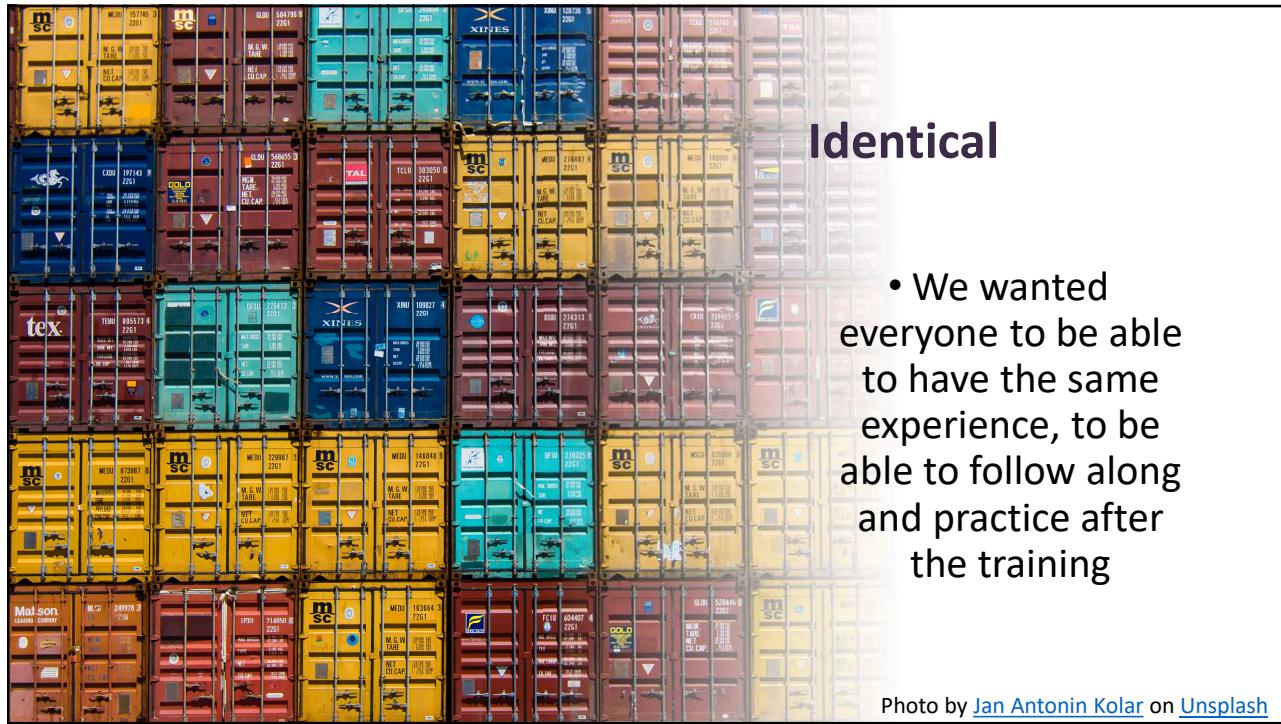
jpomfret 1 Mar 2022 18:05
bad news - I've tested positive for covid today

Rob Sewell Jess Pomfret
Automate your DBA tasks with dbatools and dbachecks
Let us show you how to use dbatools and dbachecks to take your DBA skills to the next level or be introduced to dbatools and dbachecks and learn how effective it can make you. We will share with you the skills, scripts, and tricks that we have learned with dbatools and dbachecks and tell you how they have rocketed our careers

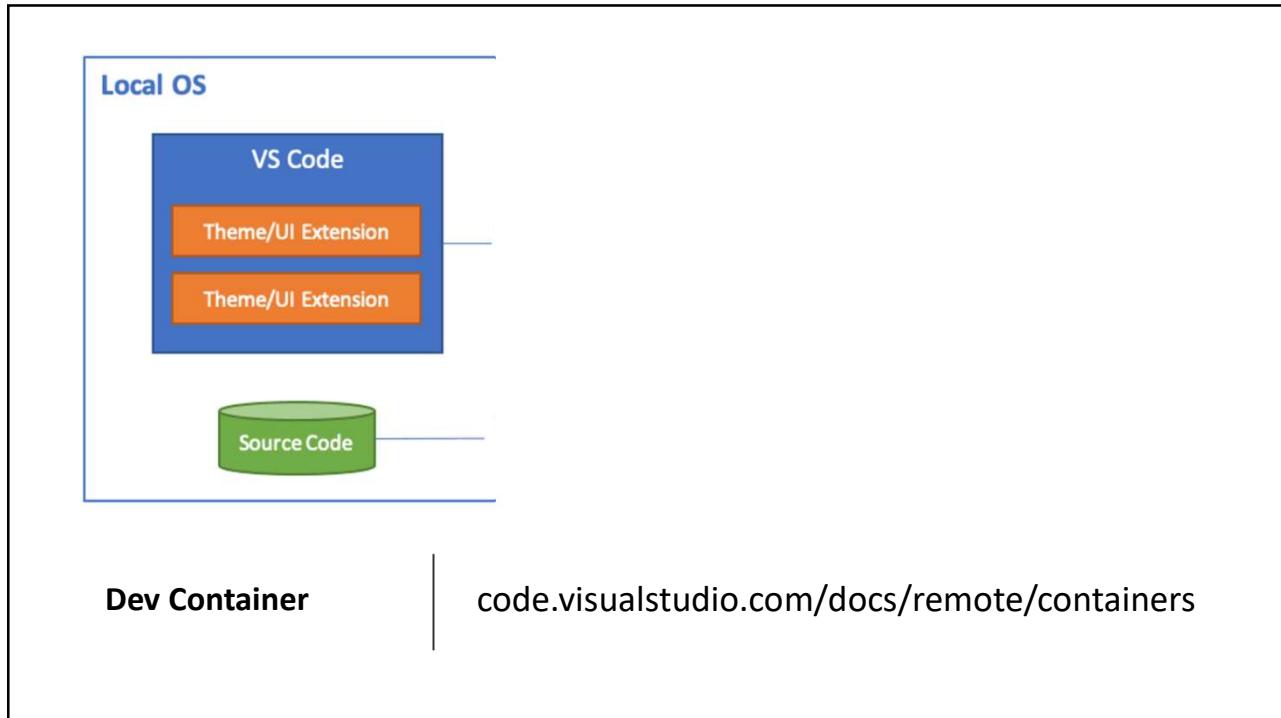
There will be many practical examples of how dbatools and dbachecks can help to save time in DBA administration duties

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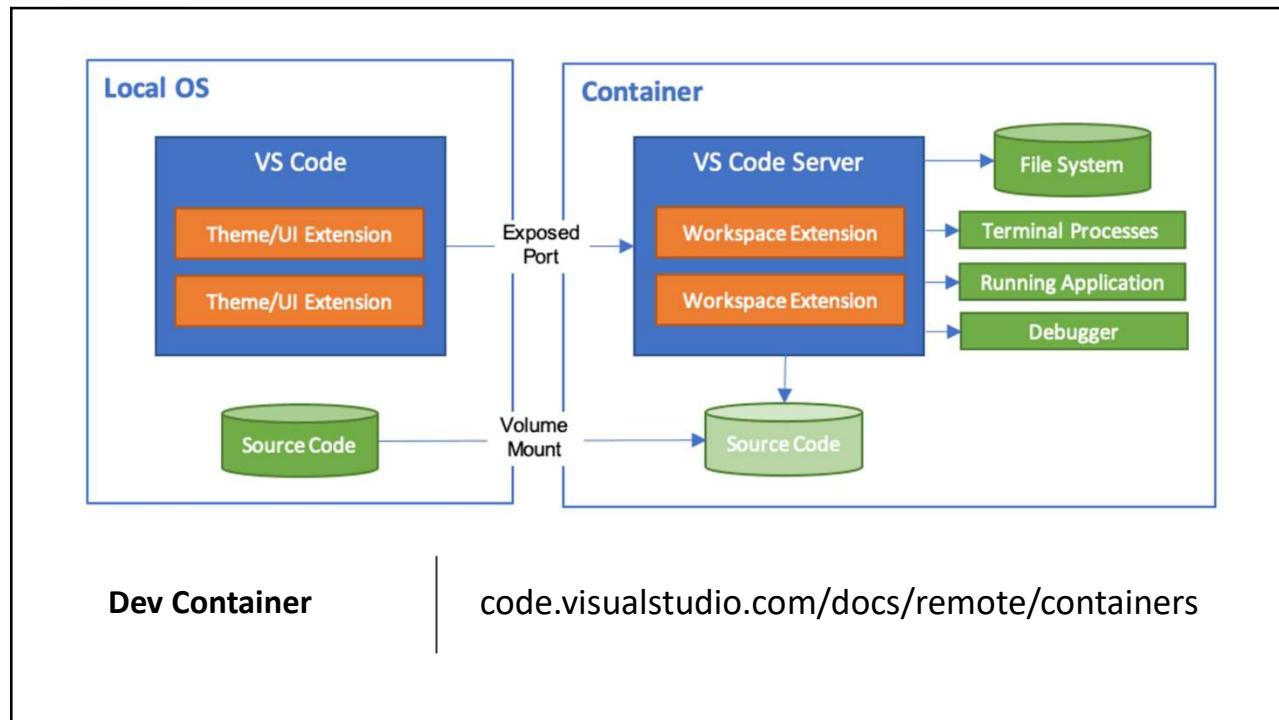
10



11



12



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devcontainer.json

```
.devcontainer > {} devcontainer.json > ...
1  {
2    "name": "SqlBits",
3    "workspaceFolder": "/workspace",
4    "dockerComposeFile": [
5      "docker-compose.yml"
6    ],
7    "remoteEnv": {
8      "LOCAL_WORKSPACE_FOLDER": "${localworkspaceFolder}",
9      "MY_SERVER": "dbatools1"
10    },
11    "service": "dbatools1",
12    "settings": {
13      "editor.renderWhitespace": "all",
14      "#terminal.integrated.profiles.Linux": {
15        "pwsh": {
16          "path": "pwsh",
17          "icon": "terminal-powershell"
18        }
19      },
20      "terminal.integrated.defaultProfile.Linux": "pwsh"
21    },
22    "extensions": [
23      "ms-vscode.powershell",
24      "github.vscode-pull-request-github",
25      "2gua.rainbow-brackets",
26      "oderwat.indent-rainbow",
27      "mhutchie.git-graph",
28      "usernameoh.errorlens"
29    ],
30    "shutdownAction": "stopCompose",
31    "remoteUser": "root"-->not ideal --prob need to setup a non-root user and use the
32  }
```

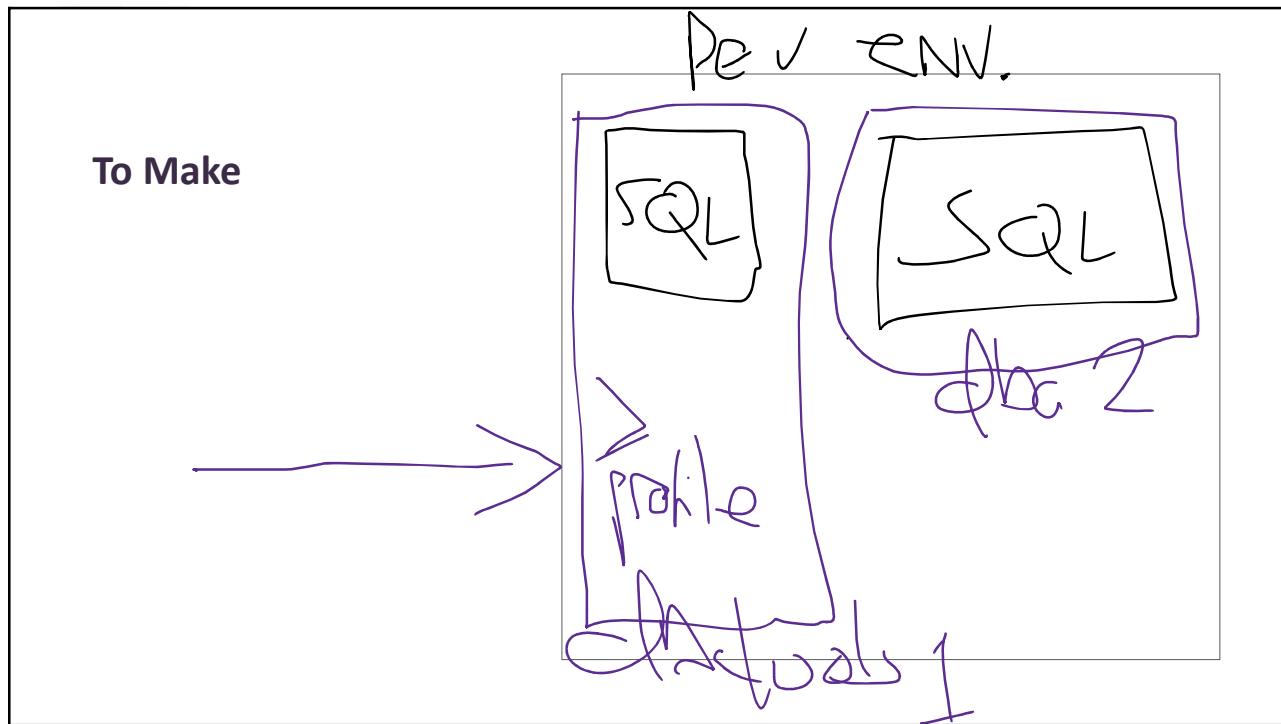
14



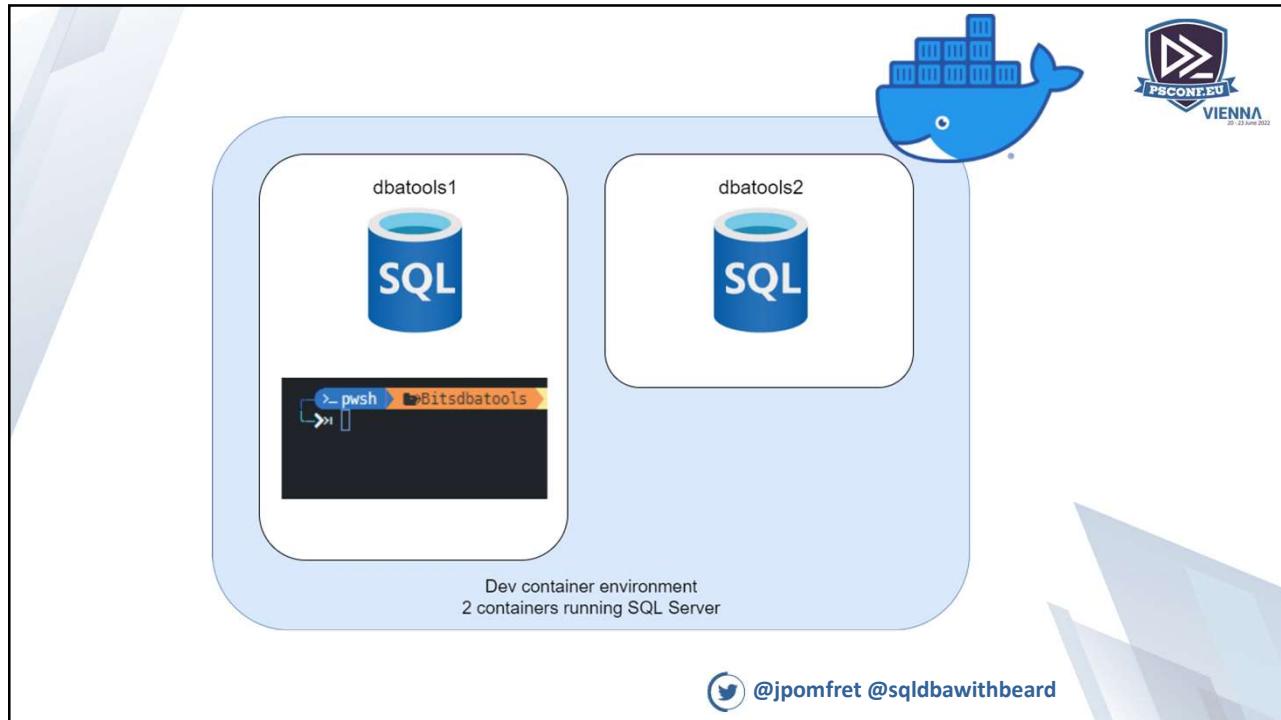
15

```
.devcontainer > ⚡ docker-compose.yml
 1  version: "3"
 2  services:
 3    dbatools1:
 4      image: sqldbawithabeard/dbatoolsprecon:v0.27.0
 5      volumes:
 6        - mydata:/var/opt/backups
 7        - shared:/shared
 8        # Update this to wherever you want VS Code to mount the folder of your project
 9        - ./workspace:/cached
10      ports:
11        - "7433:1433"
12      container_name: dbatools1
13      hostname: dbatools1
14
15    dbatools2:
16      image: sqldbawithabeard/dbatoolsprecon2:v0.27.0
17      volumes:
18        - mydata:/var/opt/backups
19        - shared:/shared
20        # Update this to wherever you want VS Code to mount the folder of your project
21        - ./somewhereweirdworkspace:/cached
22      ports:
23        - "7432:1433"
24      container_name: dbatools2
25      hostname: dbatools2
26
27
28
29  volumes:
30    mydata:
31    shared:
```

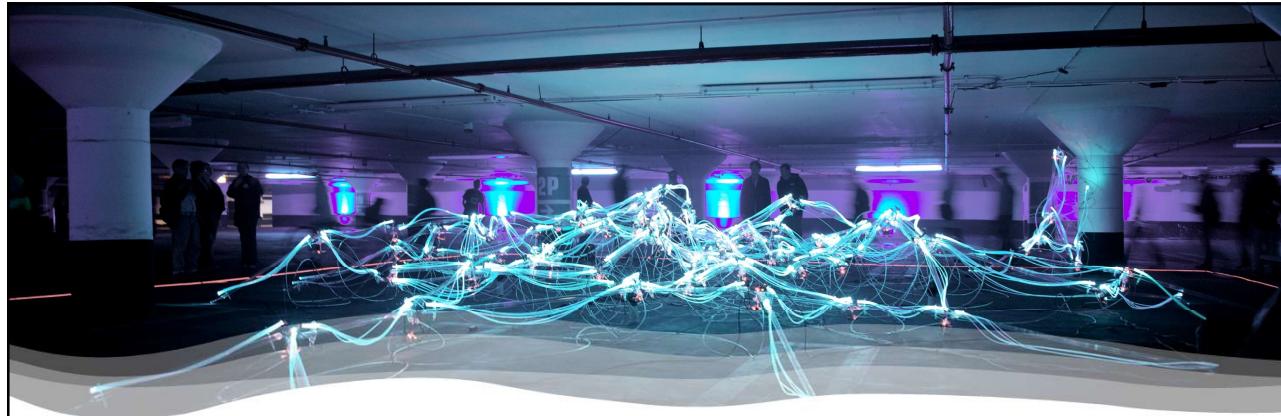
16



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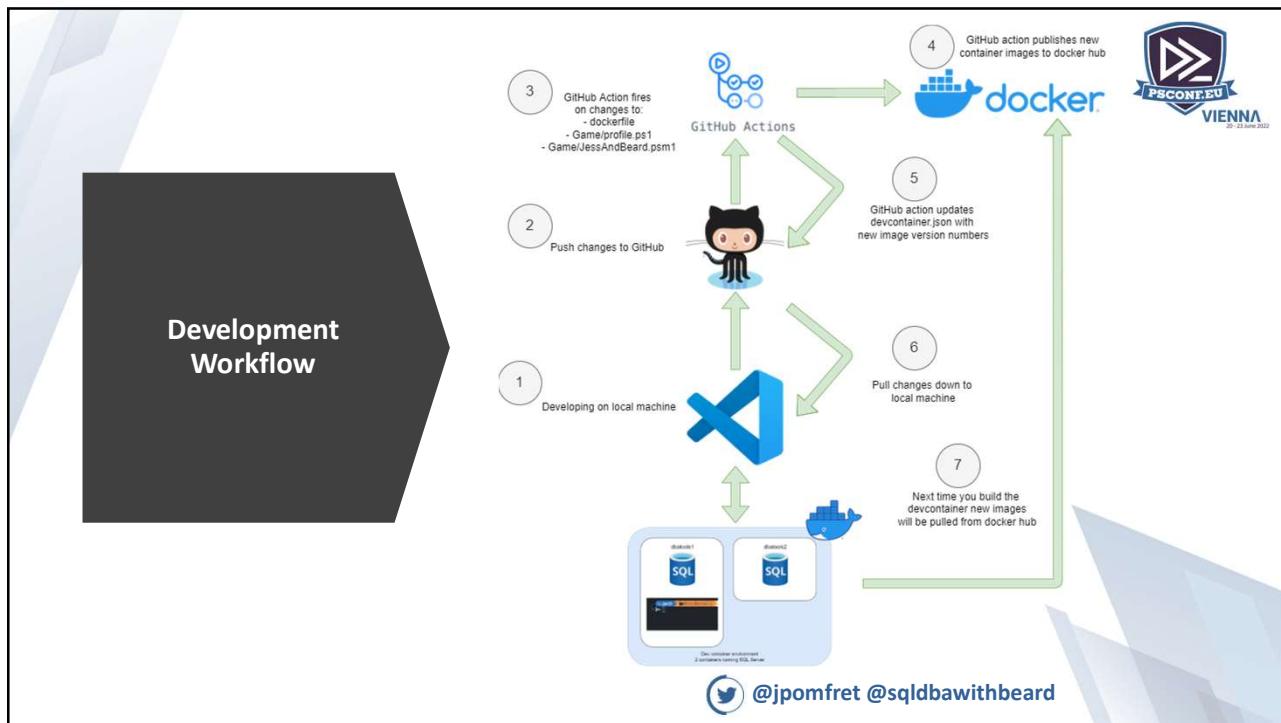
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We don't want to manually update

Photo by [Marius Masalar](#) on [Unsplash](#)

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GitHub workflow

```

1  name: Docker Image CI
2
3  on:
4    push:
5      branches: [ main ]
6      paths:
7        - dockerfile
8        - Game/profile.ps1
9        - Game/JessAndBeard.ps1
10   pull_request:
11     branches: [ main ]
12     paths:
13       - dockerfile
14       - Game/profile.ps1
15       - Game/JessAndBeard.ps1
16
17   workflow_dispatch:
18
19 jobs:
20   docker:
21     runs-on: ubuntu-latest
22     steps:
23       - uses: actions/checkout@v2
24         with:
25           fetch-depth: '0'
26
27       - name: Bump version and push tag
28         id: bump
29         uses: anothrNick/github-tag-action@1.36.0
30         env:
31           DEFAULT_BUMP: minor
32           GITHUB_TOKEN: ${{ secrets.GITHUB_TOKEN }}
33           WITH_V: true

```

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GitHub workflow

```

48   name: Build and push First Container
49   uses: docker/build-push-action@v2
50   with:
51     push: true
52     tags: ${secrets.DOCKERHUB_USERNAME }/dbatoolsprecon:${{ steps.bump.outputs.new_tag }},${secrets.DOCKERHUB_USERNAME }/dbatoolsprecon2:${{ steps.bump.outputs.new_tag }},${secrets.DOCKERHUB_USERNAME }/dbatoolsprecon3:${{ steps.bump.outputs.new_tag }}
53
54   name: Build and push Sql Instance
55   uses: docker/build-push-action@v2
56   with:
57     push: true
58     context: Container/
59     tags: ${secrets.DOCKERHUB_USERNAME }/dbatoolsprecon2:${{ steps.bump.outputs.new_tag }},${secrets.DOCKERHUB_USERNAME }/dbatoolsprecon3:${{ steps.bump.outputs.new_tag }}
60
61   name: Find and Replace
62   uses: jacobtomlinson/gha-find-replace@v2
63   with:
64     find: "dbatoolsprecon:.*"
65     replace: "dbatoolsprecon2:${{ steps.bump.outputs.new_tag }}"
66     include: ".devcontainer/docker-compose.yml"
67
68   name: Find and Replace Instance2
69   uses: jacobtomlinson/gha-find-replace@v2
70   with:
71     find: "dbatoolsprecon2:.*"
72     replace: "dbatoolsprecon2:${{ steps.bump.outputs.new_tag }}"
73     include: ".devcontainer/docker-compose.yml"
74
75   name: Add & Commit
76   uses: EndBug/add-and-commit@v8.0.2
77   with:
78     author_name: Beardy McBeardface
79     author_email: mrobsewell@outlook.com
80     message: 'The Beard says we have another one - This is an automated message'

```

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Joshua Says

SHALL WE PLAY A GAME?

[Y] Yes [N] No [?] Help (default is "Y"):

We want to have a bit of Fun too!

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CHOOSE YOUR GAME :-

```

1 - Introduction to dbatools
2 - Backup and Restore
3 - Copy Copy Copy
4 - Snapshots
5 - Export
6 - Availability Groups
7 - Finding Things
8 - Data Masking
9 - Logins
10 - Advanced Migrations
11 - Registered Servers
12 - Estate Validation
99 - TIC TAC TOE
Quit
  
```

Joshua Says
Make Your Choice

[1] 1 - Introduction to dbatools [2] 2 - Backup and Restore [3] 3 - Copy Copy Copy [4] 4 - Snapshots [5] 5 - Export [6] 6 - Availability Groups [7] 7 - Finding Things [8] 8 - Data Masking [9] 9 - Logins [M] M - Advanced Migrations [R] R - Registered Servers [C] C - Estate Validation [T] T - TIC TAC TOE [Q] Q - Quit [?] Help
(default is "1"):

We want to have a bit of Fun too!

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CHOOSE YO

1 – Introduction to dbatools
 2 – Backup and Restore
 3 – Copy Copy Copy
 4 – Snapshots
 5 – Export I
 6 – Availability Groups
 7 – Finding Things
 8 – Data Masking
 9 – Logins
 10 – Advanced Migrations
 11 – Registered Servers
 12 – Estate Validation
 98 – TIC TAC TOE
 Quit

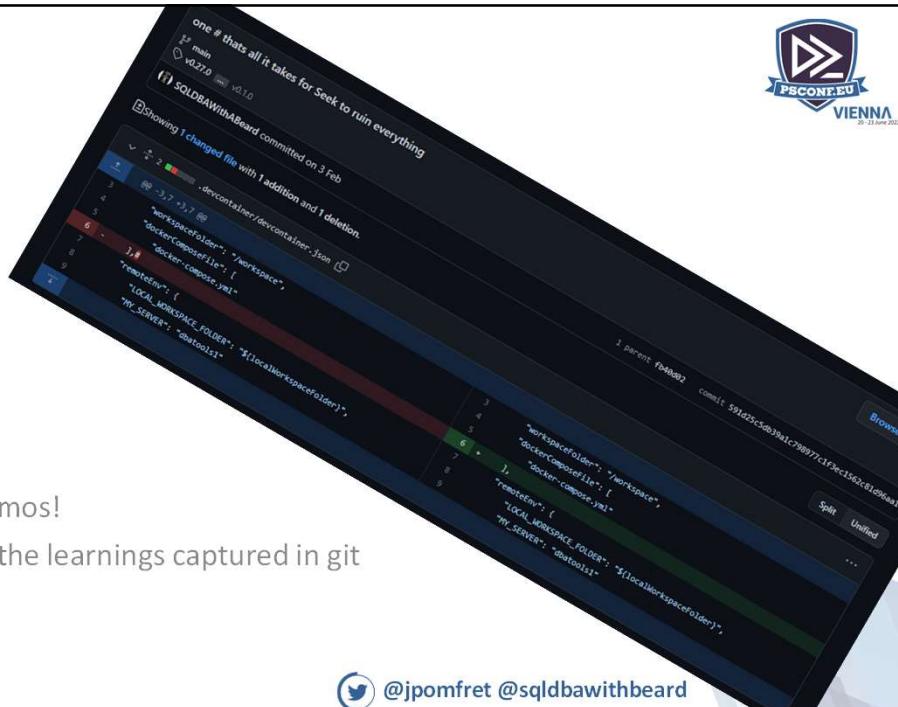
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Demos

We prefer lots of Demos!
 ...a wander through the learnings captured in git



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Demos

We prefer lots of Demos!
...a wander through the learnings captured in git

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Open in dev container – show backup restore chaos

From a single container to needing two

Show docker build process – install pwsh – modules copy profile
Why what does profile do?

Github action – bump the version of container and docker compose

Profile – code into container

Docker ps -a in windows terminal
Then rebuild and – created date doesn't change

Find some funny commits
No thermonuclear war

Seek

Found bugs
[Consistency on credential parameter name on multiple commands - Issue #8193 - dataplat/dbatools \(github.com\)](https://github.com/dataplatform/dbatools/issues/8193)

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