

# DATA() { EXPOSED;

DATA EXPOSED SPECIAL

## Around the Clock with Azure SQL and Azure Data Factory

Americas

February 3, 2021

09:00 - 17:00 PT

Asia

February 4, 2021

09:00 - 17:00 SGT

16 Sessions | 2 Ask the Expert Panels | 1 Hackathon



HOSTED BY

Wee Hyong Tok & Anna Hoffman

DATA() {  
EXPOSED;

# Your A-team: Azure Data Factory, Azure SQL, Azure DevOps

Arvind Shyamsundar | Principal Program Manager | Azure SQL

 <https://github.com/arvindshmicrosoft/>

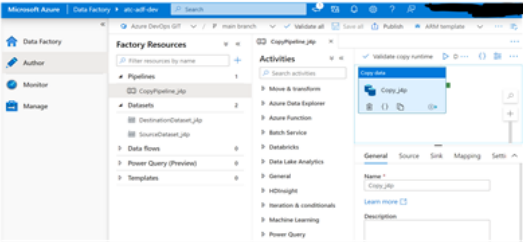
 /arvindsh

 @arvisam

# Demo Scenario



Azure Storage  
with reference PII data

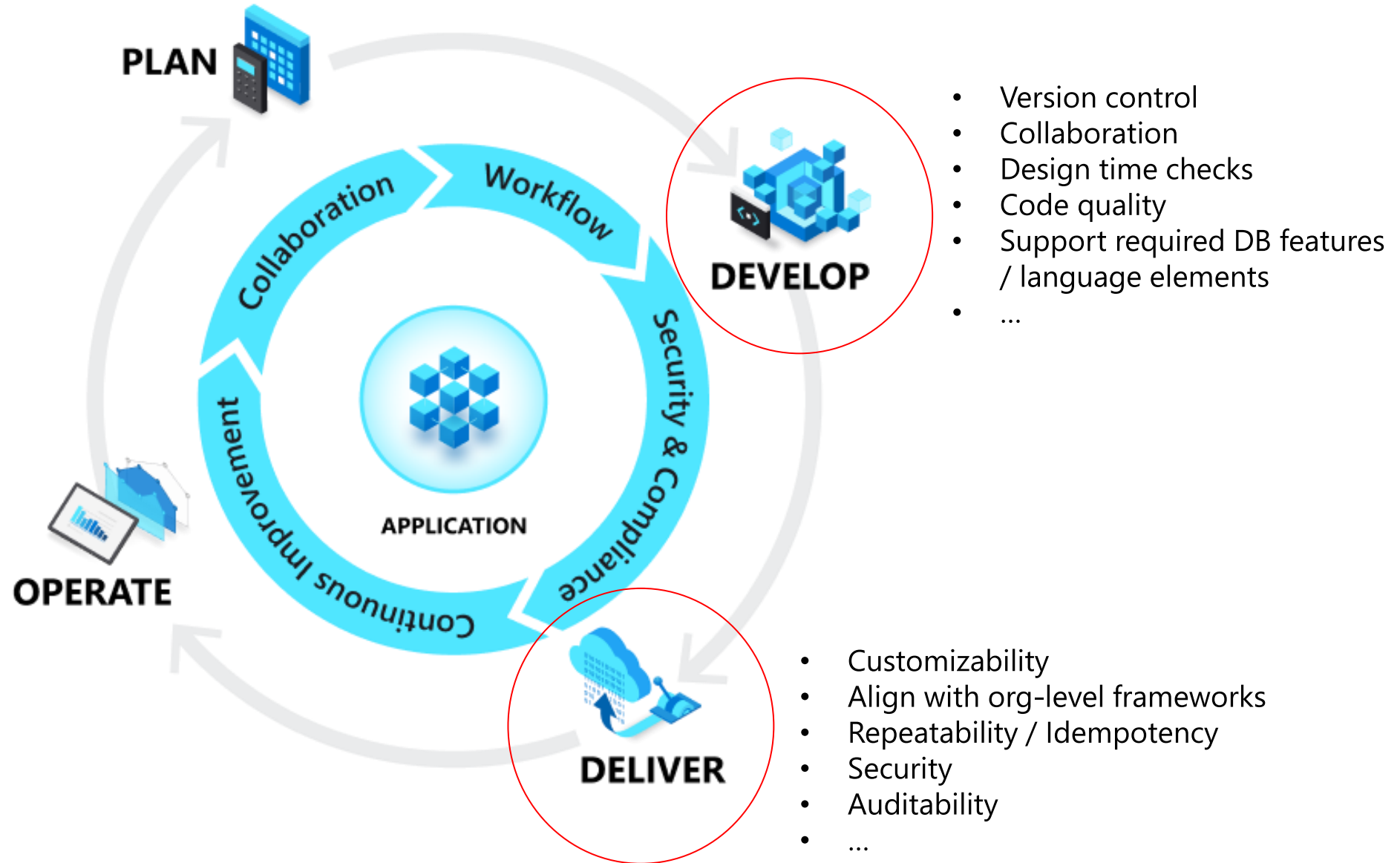


Azure Data Factory authoring  
experience



Azure Data Studio SQL  
Project

# DevOps



# Azure SQL DB – Developer Tooling



[Visual Studio Code](#)  
[SQL Management Studio](#)  
[Flyway](#) \*  
[dbUp](#) \*

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Azure

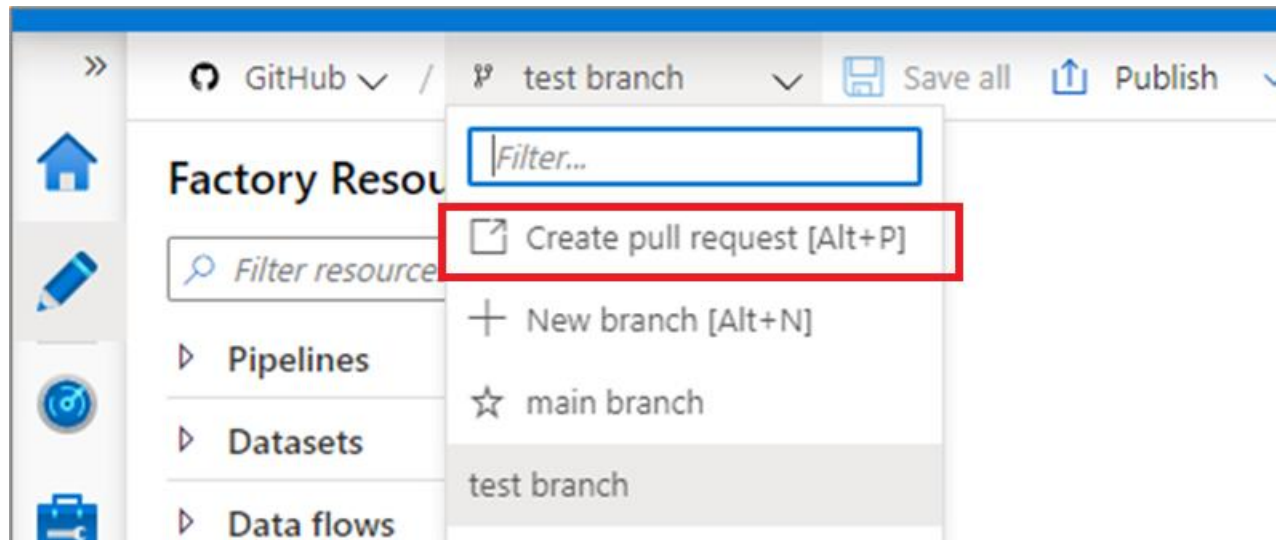
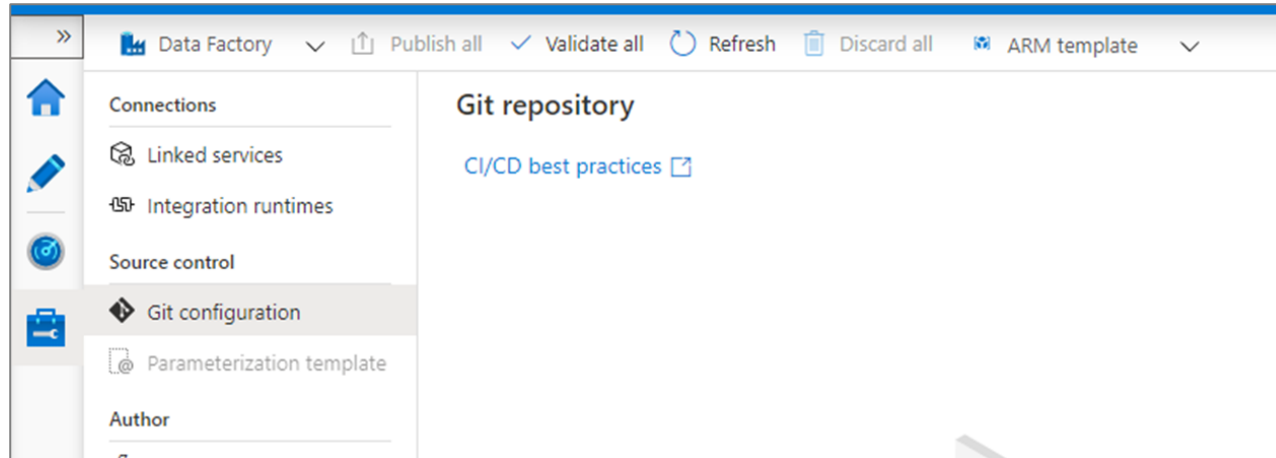


[SQL Projects in Visual Studio](#) (SQLProj / SSDT)  
[Azure Data Studio](#)  
[Alternate MSBuild SDK for SqlProj](#) \*

\* Third-party and OSS tools mentioned here on are strictly on an "as-is" basis. Please review the capabilities, applicability, and accuracy of these before using them in your projects and workflows.



# Azure Data Factory + Azure DevOps



### Repository settings

Enter Git repository information to be associated with your Data Factory: daperlov-cicd-test

Repository type \*

Azure Active Directory

Azure DevOps Account \*

Project name \*

Git repository name \*  
☒ Create new ☐ Use existing

Collaboration branch \*

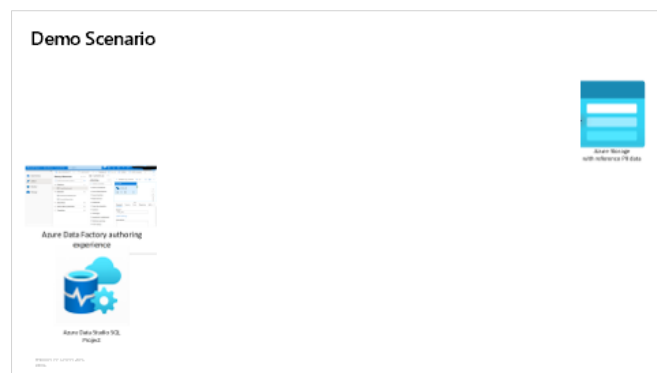
Publish branch

## Community options:

<https://github.com/SQLPlayer/azure.datafactory.tools/>  
<https://marketplace.visualstudio.com/items?itemName=SQLPlayer.DataFactoryTools>

# Putting it all together

## End-to-end Demo



# Summarized Task view

Task	Tooling Choices
Create logical Azure SQL Server	<a href="#">ARM template</a> <a href="#">AZ CLI</a> / PowerShell <a href="#">cmdlet</a> Third party automation tool (Terraform / <a href="#">Ansible</a> etc.)
Create Azure SQL DB	<a href="#">ARM template</a> <a href="#">T-SQL</a> <a href="#">AZ CLI</a> / PowerShell <a href="#">cmdlet</a> Third party automation tool ( <a href="#">Terraform</a> / <a href="#">Ansible</a> etc.)
Build a DACPAC	MSBuild task in Azure DevOps pipeline / GitHub <a href="#">SQL Action</a>
Deploy changes to the DB (using DACPAC)	Run SQLPackage.exe through automation Azure DevOps <a href="#">SQL Deployment task</a>
Deploy changes to the DB (using change-based migration)	Run the app and invoking the code path which incrementally deploys the DB changes as applicable
Import BACPAC	<a href="#">PowerShell</a> , <a href="#">AZ CLI</a>
Azure Data Factory	Git integration ARM template Community options (not officially supported by Microsoft)



# Learn More

## Blog Posts

- <https://devblogs.microsoft.com/azure-sql/devops-for-azure-sql/>
- <https://devblogs.microsoft.com/azure-sql/continuous-delivery-for-azure-sql-db-using-azure-devops-multi-stage-pipelines/>

## Videos

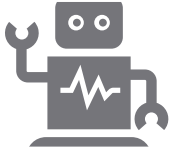
- <https://www.youtube.com/watch?v=j7OnxOz7YDY> Data Exposed – part 1
- <https://www.youtube.com/watch?v=G7H6HbzwAfs> Data Exposed – part 2

## Code Samples

- <https://github.com/arvindshmicrosoft/azure-sql-devops>



# References



## Azure DevOps

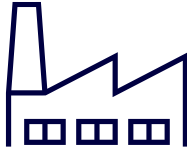
<https://www.donovanbrown.com/post/what-is-devops>

<https://docs.microsoft.com/en-us/azure/devops/pipelines/get-started/multi-stage-pipelines-experience>

<https://docs.microsoft.com/en-us/azure/devops/pipelines/tasks/deploy/azure-powershell>

<https://github.com/actions/virtual-environments/blob/master/images/win/Windows2019-Readme.md>

<https://docs.microsoft.com/en-us/azure/devops/pipelines/library/variable-groups>



## Azure Data Factory

<https://docs.microsoft.com/en-us/azure/data-factory/source-control>

<https://docs.microsoft.com/en-us/azure/data-factory/continuous-integration-deployment>

<https://marketplace.visualstudio.com/items?itemName=SQLPlayer.DataFactoryTools> \*

<https://sqlplayer.net/2021/01/two-methods-of-deployment-azure-data-factory/> \*



## Azure SQL

<https://github.com/Microsoft/azure-pipelines-tasks/tree/master/Tasks/SqlAzureDacpacDeploymentV1>

<https://docs.microsoft.com/en-us/azure/devops/pipelines/tasks/deploy/sql-azure-dacpac-deployment>

<https://docs.microsoft.com/en-us/sql/tools/sqlpackage-download>

# Thank You!



<https://github.com/arvindshmicrosoft/>



[/arvindsh](#)



[@arvisam](#)