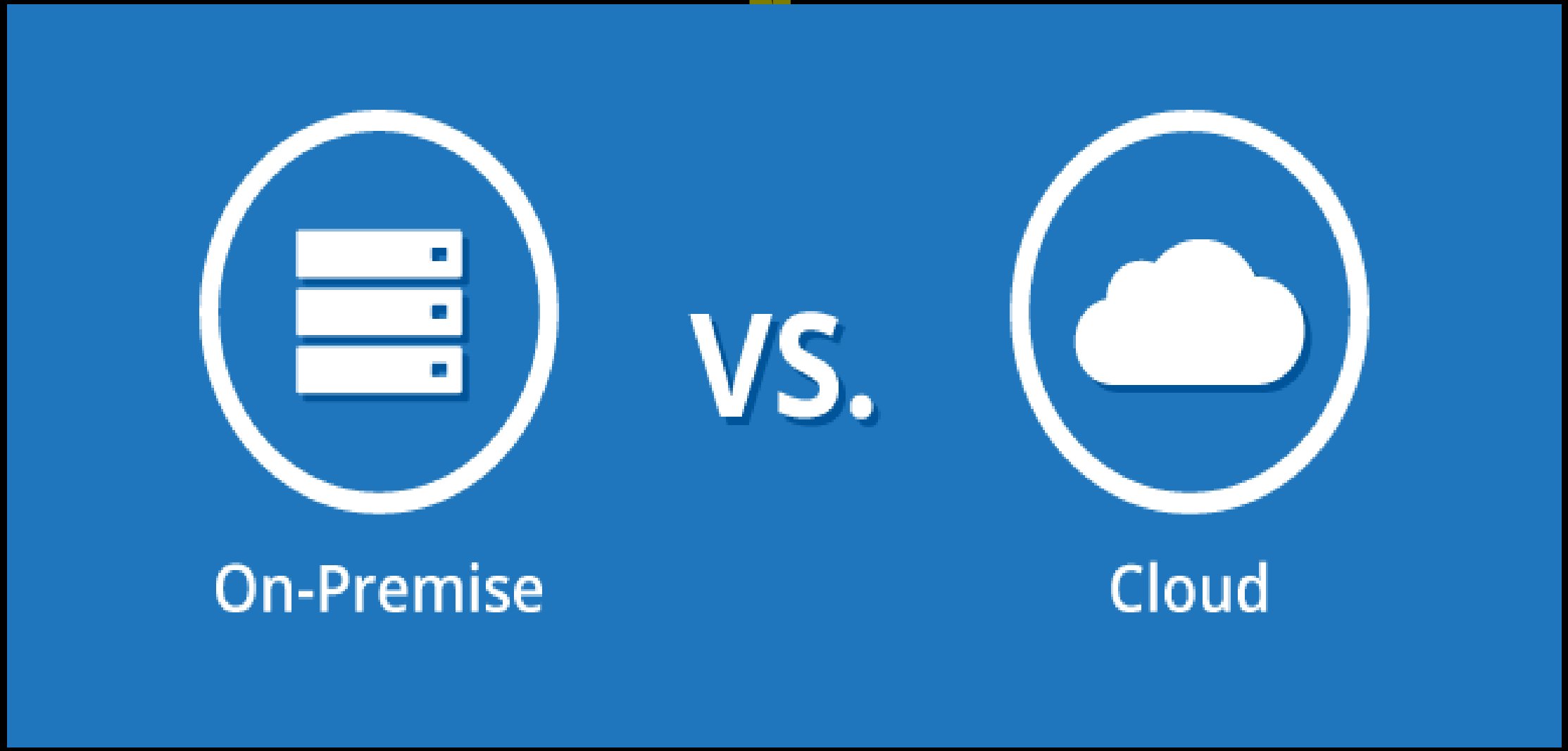
# Where is My SQL Agent?

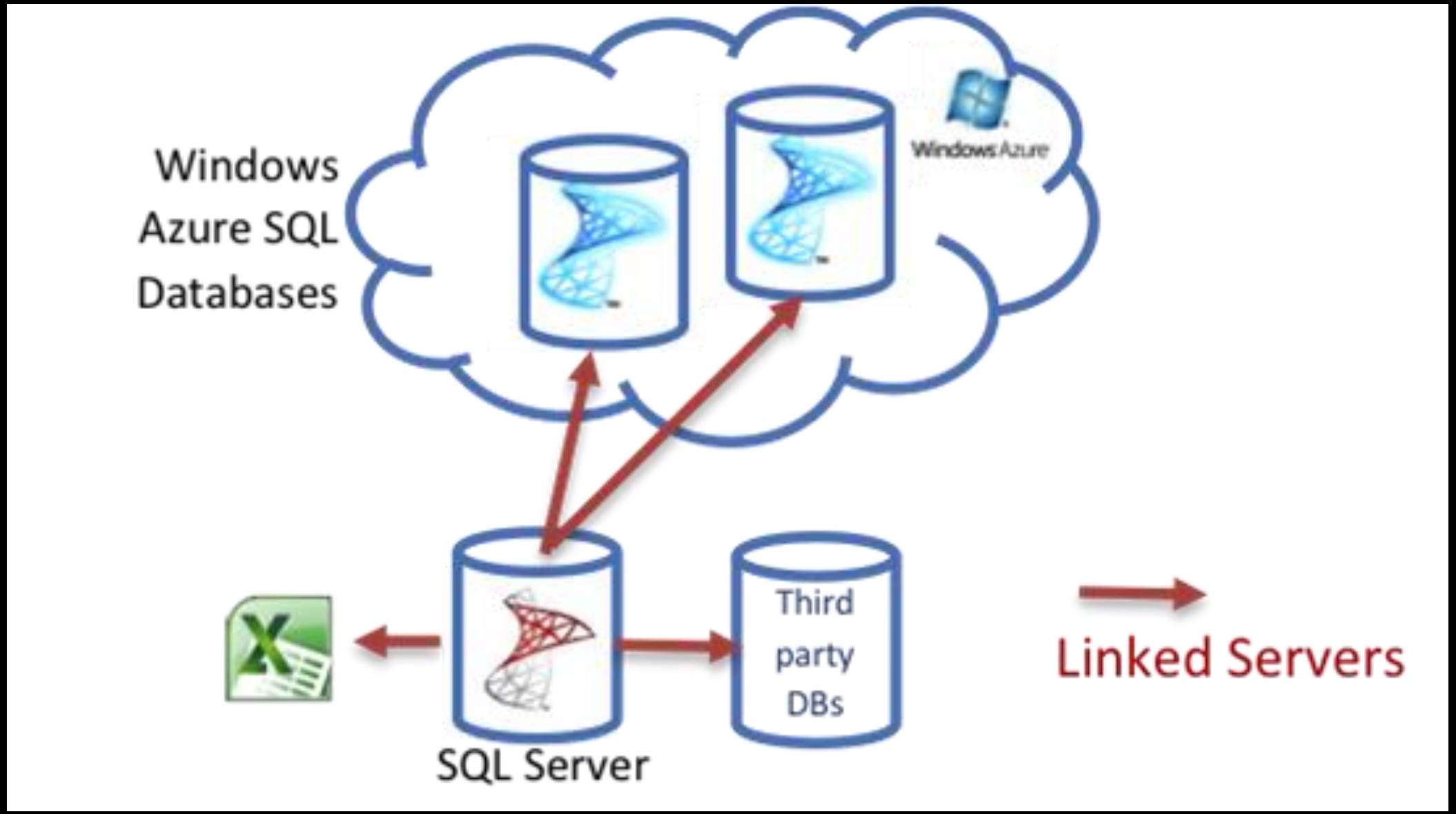
Taiob Ali

# Use of SQL Server Agent

- Backup
- Integrity Checks
- Index Maintenance
- Update Statistics
- Purge Old data
- Track Blocking
- Collecting WMI
- Long Running Queries
- Wait Statistics
- Collecting DMV

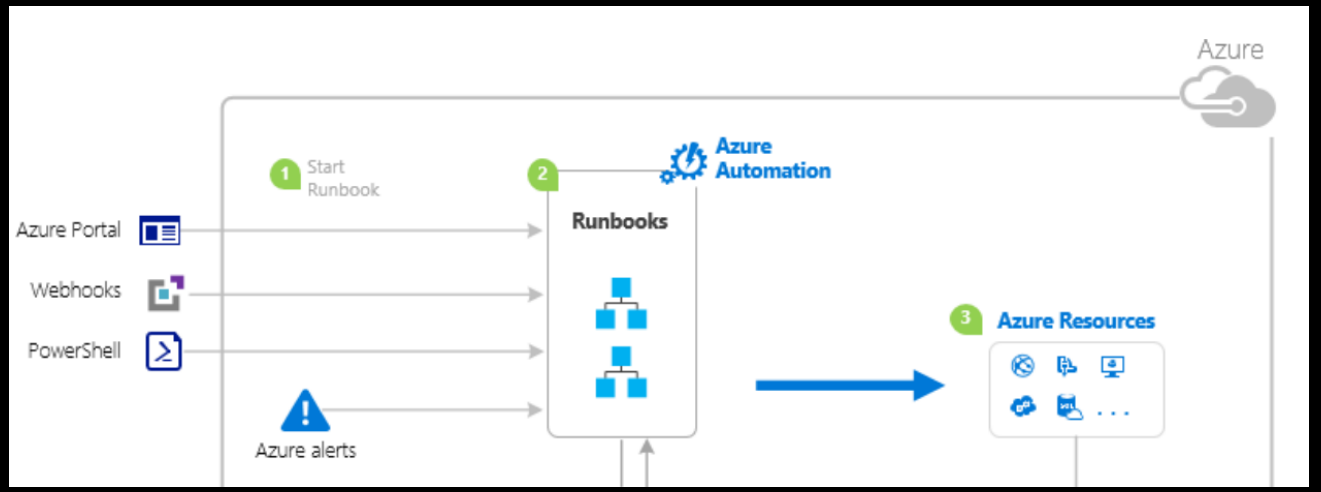

vs.
On-Premise
Cloud

| On-Premise | Azure-IaaS | Azure-PaaS |
| --- | --- | --- |
| • Linked Server<br>• PowerShell/ Windows Scheduler<br>• 3rd Party Scheduler | • SQL Server on Azure VM<br>• PowerShell/Azure VM Windows Scheduler | • Azure Automation<br>• Azure Function<br>• Elastic Job Agents<br>• Web Jobs |

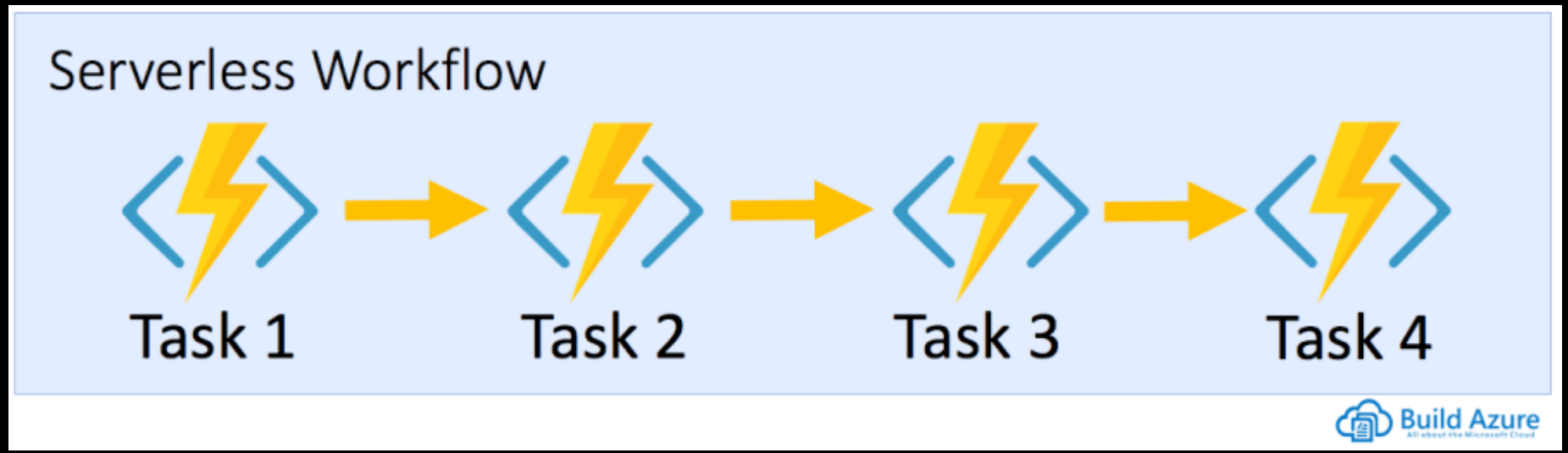



https://azure.microsoft.com/zh-tw/blog/announcing-updates-to-windows-azure-sql-database/

https://www.fullstackpython.com/powershell.html
https://www.adamtheautomator.com/create-jenkins-jnlp-scheduled-tasks-powershell-dsc/


Azure
1
Start
Runbook
2
Azure
Automation
Azure Portal
Webhooks
PowerShell
Runbooks
Azure alerts
3
Azure Resources

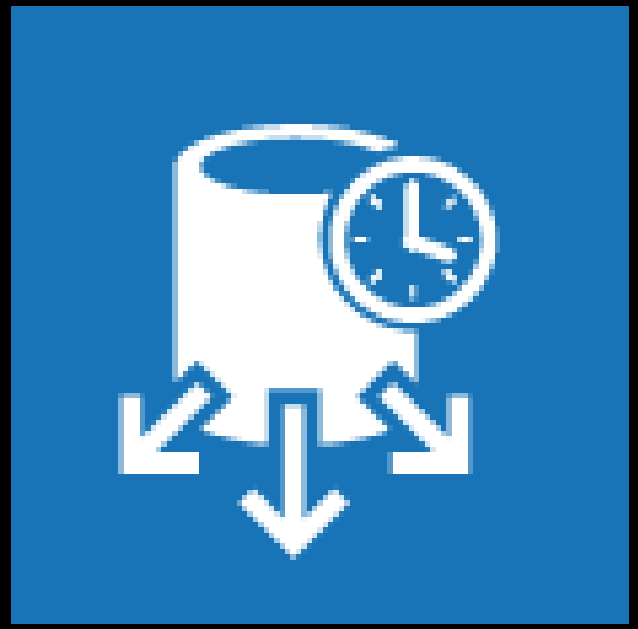
- Choice of language
- Pay per Use
- Max run time 10 minutes
- Bring your own dependencies
- Simplified integration
- Development flexibility
- Open source

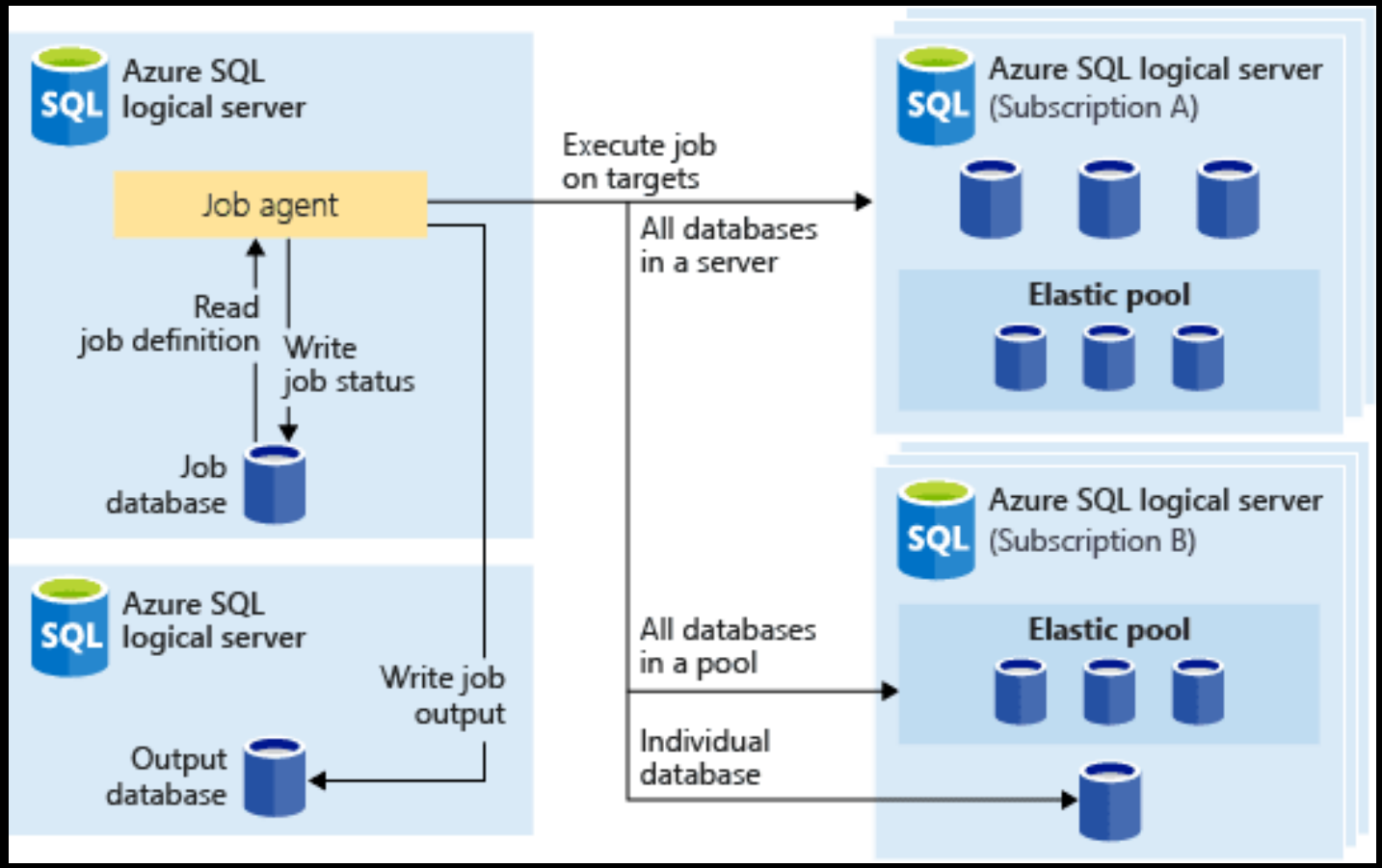


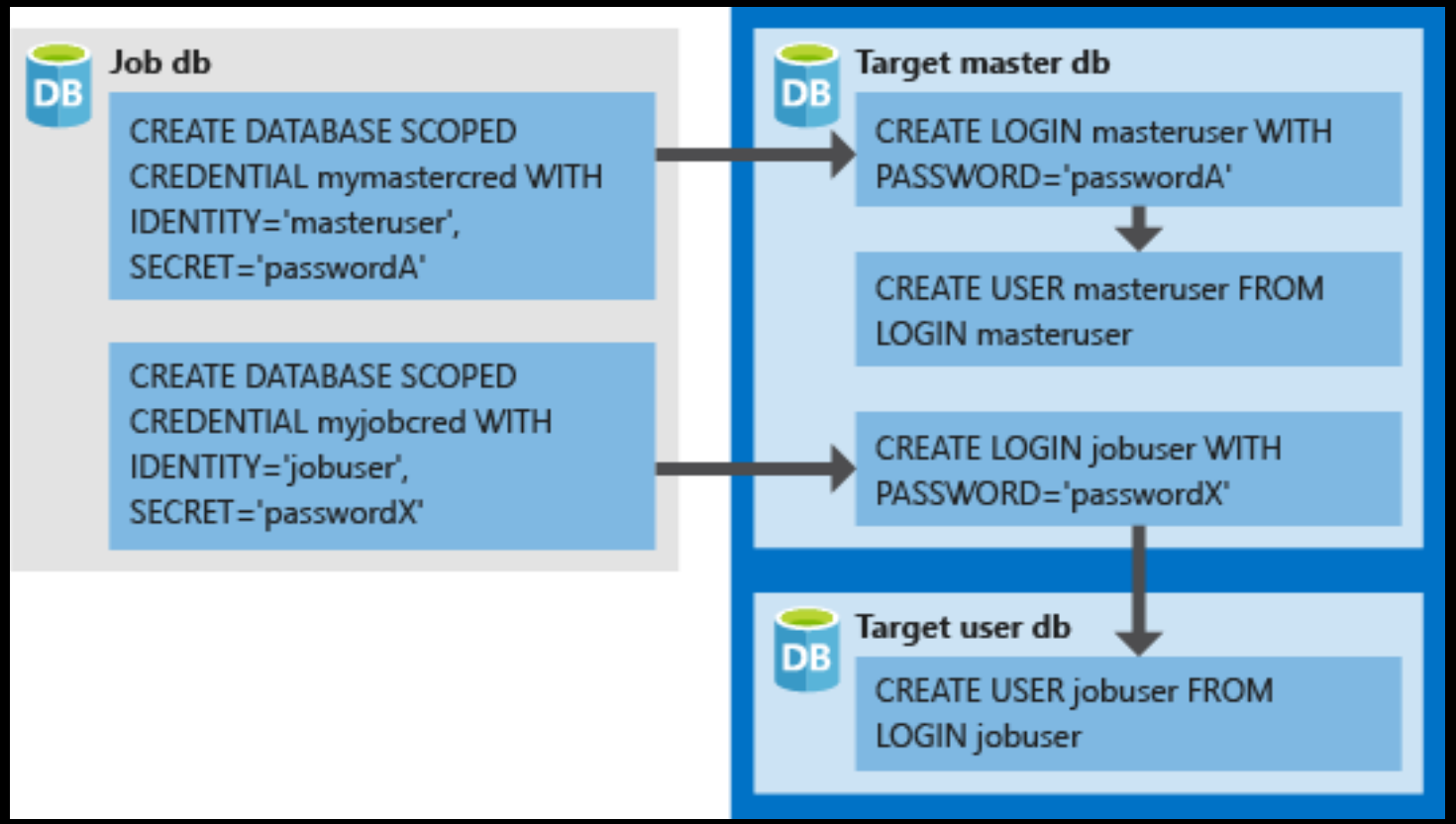

https://buildazure.com/2017/08/17/azure-functions-extend-execution-timeout-past-5-minutes/

# New In Functions

- Business-critical apps with no cold start and network isolation
  - 60 minutes run time
  - No cold start
  - Up to 100 instances
- Serverless automation with PowerShell in GA
  - Automatic management of PS Module




Azure SQL logical server
Job agent
Read job definition
Write job status
Job database
Azure SQL logical server
Write job output
Output database
Execute job on targets
All databases in a server
All databases in a pool
Individual database
Azure SQL logical server (Subscription A)
Elastic pool
Azure SQL logical server (Subscription B)
Elastic pool

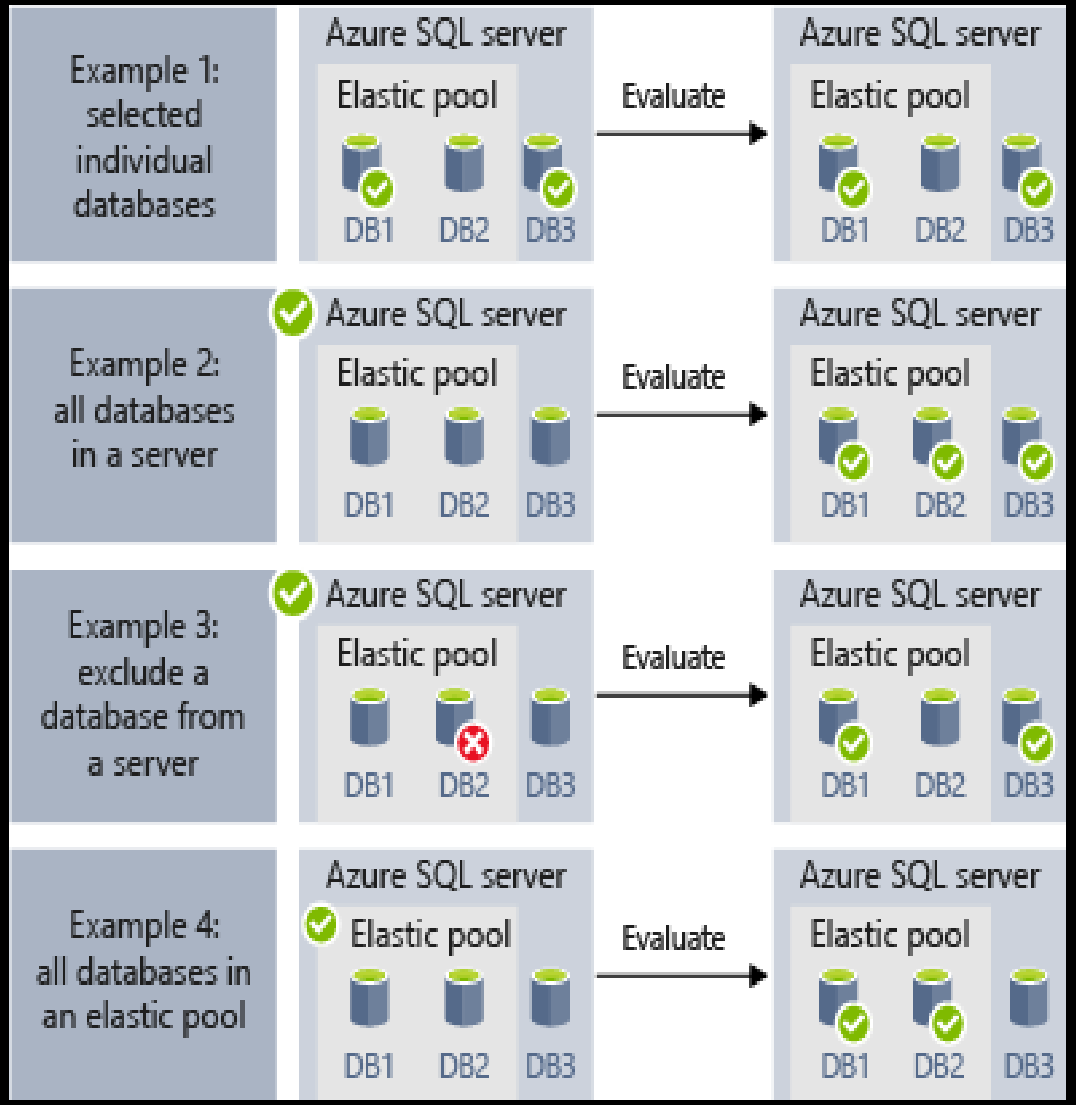


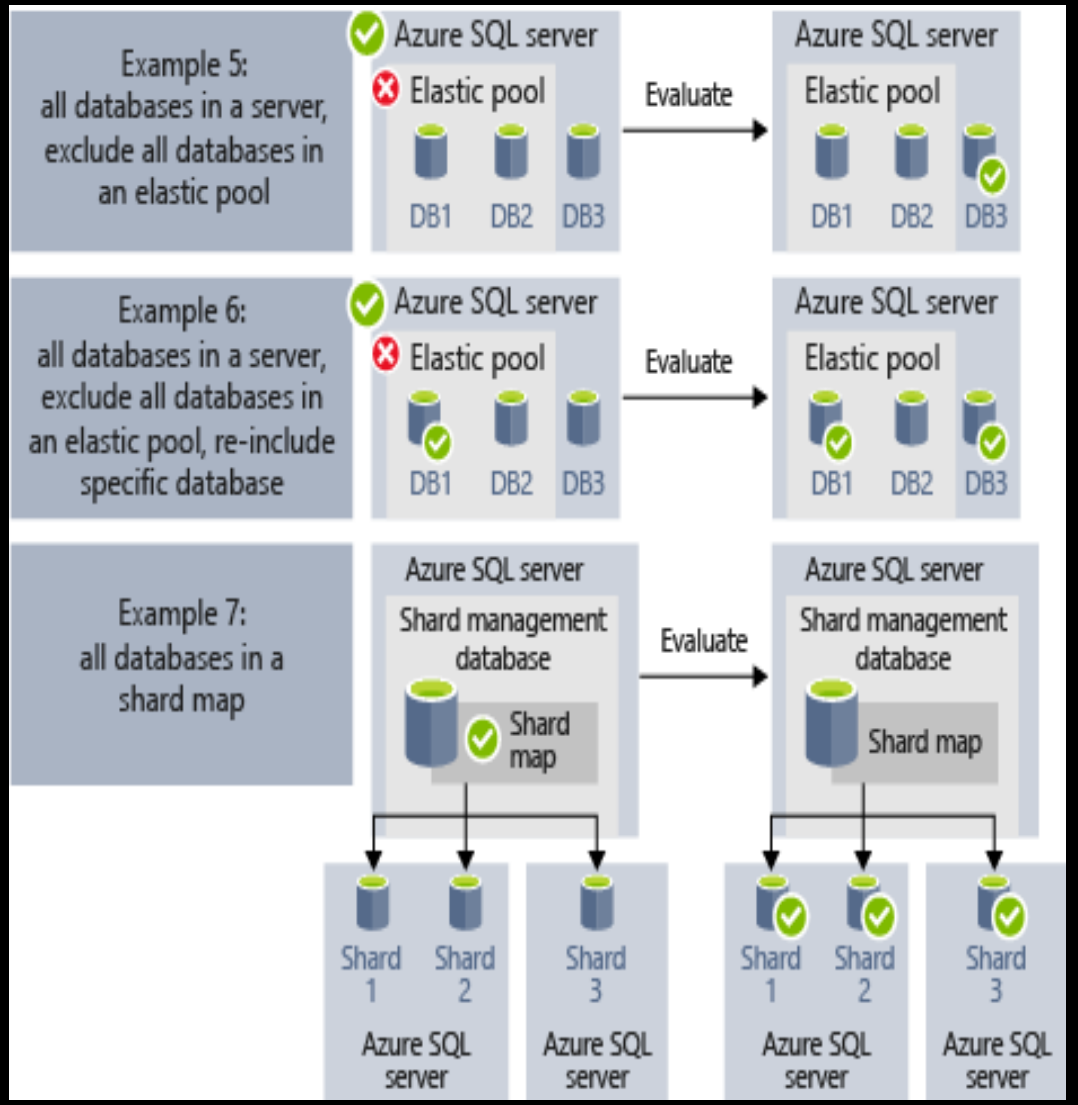

Elastic Job Agent

Job Database

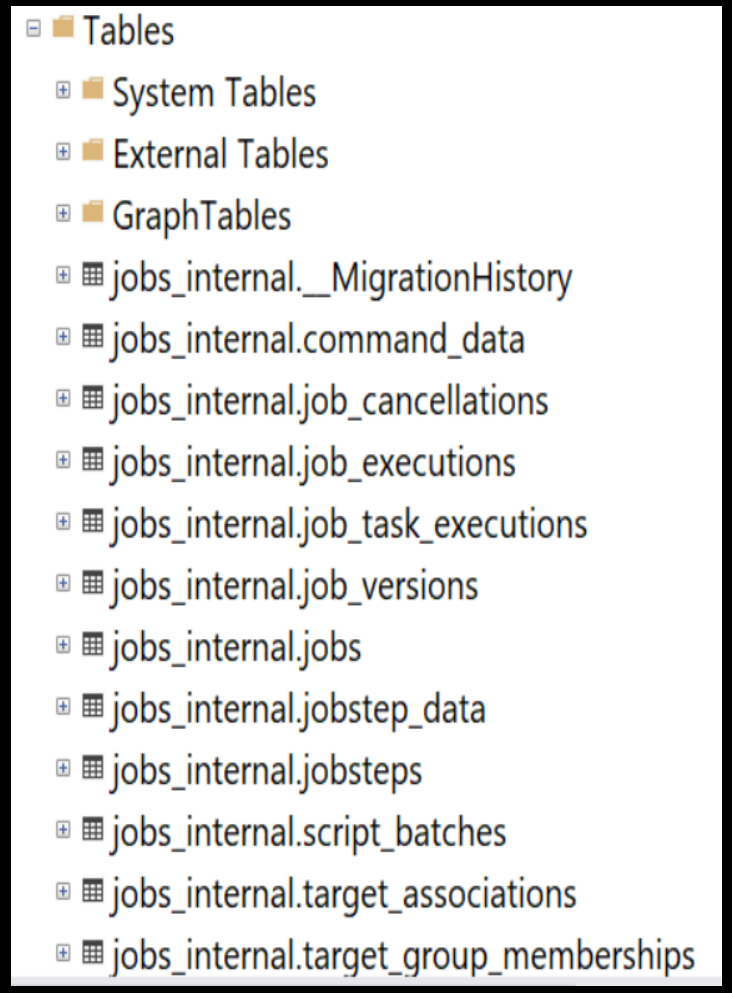
Target Group

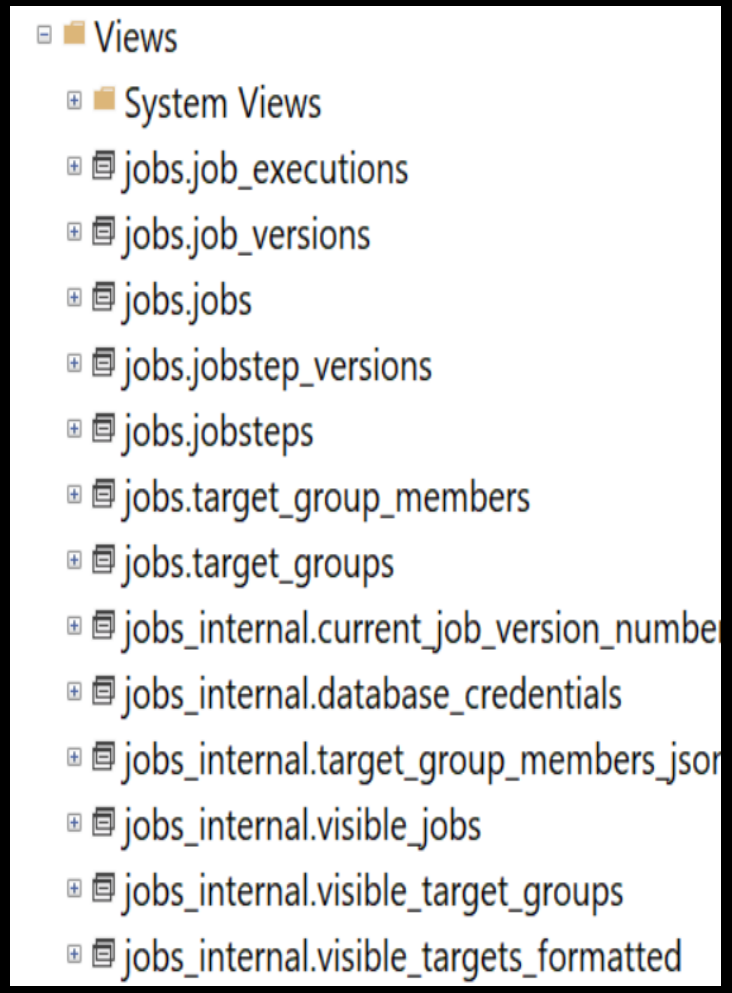
Job




https://docs.microsoft.com/en-us/azure/sql-database/sql-database-job-automation-overview


Tables
System Tables
External Tables
GraphTables
jobs_internal.__MigrationHistory
jobs_internal.command_data
jobs_internal.job_cancellations
jobs_internal.job_executions
jobs_internal.job_task_executions
jobs_internal.job_versions
jobs_internal.jobs
jobs_internal.jobstep_data
jobs_internal.jobsteps
jobs_internal.script_batches
jobs_internal.target_associations
jobs_internal.target_group_memberships


Views
System Views
jobs.job_executions
jobs.job_versions
jobs.jobs
jobs.jobstep_versions
jobs.jobsteps
jobs.target_group_members
jobs.target_groups
jobs_internal.current_job_version_numbe
jobs_internal.database_credentials
jobs_internal.target_group_members_jso
jobs_internal.visible_jobs
jobs_internal.visible_target_groups
jobs_internal.visible_targets_formatted

Stored Procedures
System Stored Procedures
jobs.sp_add_job
jobs.sp_add_jobstep
jobs.sp_add_target_group
jobs.sp_add_target_group_membe
jobs.sp_delete_job
jobs.sp_delete_jobstep
jobs.sp_delete_target_group
jobs.sp_delete_target_group_mem
jobs.sp_purge_jobhistory
jobs.sp_start_job
jobs.sp_stop_job
jobs.sp_update_job
jobs.sp_update_jobstep

https://www.invotide.com/demo

# Wrap UP

Multiple Options

Hybrid Model

Multiple Language

Know Limitations

Scalability

Be Flexible

# Resource

- Automate management tasks using database jobs
- Creating a Linked Server to an Azure SQL Database
- An introduction to Azure Automation
- Azure Functions Documentation
- An introduction to Azure Functions
- Use Transact-SQL (T-SQL) to create and manage Elastic Database Jobs

## Work

- Microsoft MVP – Data Platform
- 13 years as DBA
- MCSE Data Management and Analytics

## Outside Work

- Running—One 26.2 and Many 13.1
- Shuttling 3 kids

## Giving Back

- Organizer @SqlSaturdayBoston and Co-organizer NESQL UG
- Frequent speaker local user groups, SQL Saturdays & Virtual groups
- Answering questions at #sqlhelp & dba.stackexchange
- Blog at sqlworldwide.com

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THANK
YOU