

Microsoft Data and AI News

APRIL 2020

Contents

[GENERAL ANNOUNCEMENTS](#)

[DATA PLATFORM](#)

[DATA INTEGRATION](#)

[ANALYTICS AND REPORTING](#)

[AI AND IOT](#)

[INFRASTRUCTURE AND MANAGEMENT](#)

[TRAINING AND TECHNICAL GUIDES](#)

[DEVELOPMENT AND TOOLS](#)

[LIFECYCLE UPDATES](#)

[SQL BUILDS](#)

[COMMUNITY RESOURCES](#)

[NEWSLETTER ARCHIVES](#)

General Announcements

- Microsoft Build 2020: Registration now open
 - Registration for an all-new virtual Microsoft Build (a 48-hour virtual event starting May 19 at 8 a.m. PT) experience is now open
 - <https://blogs.microsoft.com/blog/2020/04/20/microsoft-build-2020-registration-now-open/>
- A healthy society requires a healthy planet
 - Announcing the second step in our sustainability efforts for 2020, focusing on preserving and protecting the biodiversity and health of the world's ecosystems.
 - Microsoft's new biodiversity initiative is multi-faceted. Perhaps most importantly, it aims to put data and digital technology to work, including through an ambitious program to aggregate environmental data from around the world and put it to work in a new "Planetary Computer."
 - We are adopting four principles to guide our work in helping achieve global biodiversity goals. These are: (1) Put data and digital technology to work. (2) Empower partners and customers around the world (3) Use our voice on ecosystem-related public policy issues. (4) Take responsibility for our land footprint.
 - <https://blogs.microsoft.com/blog/2020/04/15/a-healthy-society-requires-a-healthy-planet/>
- Announcing the Nonprofit Data Warehouse Quickstart
 - A pre-packaged, 'one-click deployment,' Azure based data warehouse solution. The Quickstart integrates sample data from IATI and The WHO Water and Sanitation Report.
 - <https://www.linkedin.com/pulse/announcing-nonprofit-data-warehouse-quickstart-erik-arnold/>

- https://github.com/Microsoft/nonprofit_data_warehouse_quickstart

[Back to Contents](#)

Data Platform

- Azure SQL Edge - Private Preview
 - In private preview, Azure SQL Edge offers the following features: (1) Built-in ONNX runtime support (2) Built-in streaming support (3) Deploy from the Azure IoT Edge as a module (4) <500MB small-footprint container
 - <https://techcommunity.microsoft.com/t5/sql-server/azure-sql-edge-private-preview/ba-p/1109299>
- Azure Analysis Services Updates
 - Calculation groups are now generally available
 - Many-to-many relationships in Azure Analysis Services are now generally available
 - Query interleaving is now generally available
 - Improved query replica synchronization now available
 - <https://azure.microsoft.com/en-us/updates/announcing-general-availability-ga-of-calculation-groups-in-azure-analysis-services/>
 - <https://azure.microsoft.com/en-us/updates/announcing-general-availability-ga-of-manytomany-relationships-in-azure-analysis-services/>
 - <https://azure.microsoft.com/en-us/updates/announcing-general-availability-ga-of-query-interleaving-for-azure-analysis-services/>
 - <https://azure.microsoft.com/en-us/updates/announcing-general-availability-ga-of-improved-query-replica-synchronization-in-azure-analysis-services/>
- SQL Server 2019 IaaS images with Linux distribution support now available
 - <https://azure.microsoft.com/en-us/updates/sql-server-2019-iaas-images-with-linux-distribution-support-now-available/>
- Azure Private Link for Azure Database for PostgreSQL, MySQL, MariaDB now in Azure government regions
 - <https://azure.microsoft.com/en-us/updates/azure-private-link-for-azure-database-for-postgresql-now-in-azure-government-regions/>
 - <https://azure.microsoft.com/en-us/updates/private-link-for-azure-database-for-mysql-in-usgov/>
 - <https://azure.microsoft.com/en-us/updates/private-link-for-azure-database-for-mariadb-in-usgov/>
- Open sourcing the Java language extension for SQL Server
 - In SQL Server 2019, we added a Java language extension, which enables secure execution of Java programs in the context of a SQL Server query.
 - Enables pushing business logic down into the database for better performance.
 - We are thrilled to announce that we are open sourcing the Java language extension for SQL Server on GitHub.
 - <https://cloudblogs.microsoft.com/sqlserver/2020/04/22/open-sourcing-the-java-language-extension-for-sql-server/>
- SQL Server 2017 adds support for Red Hat Enterprise Linux 8 and Ubuntu 18.04
 - <https://techcommunity.microsoft.com/t5/sql-server/sql-server-2017-adds-support-for-red-hat-enterprise-linux-8-and/ba-p/1303573>
- Azure SQL Database Hyperscale—Change tracking support now available

- Azure SQL Database Hyperscale now fully supports change tracking, a lightweight solution that provides an efficient change tracking mechanism for applications. Use Azure SQL engine's native ability to keep track of which rows have been inserted, updated, or deleted on behalf of the user.
- <https://azure.microsoft.com/en-us/updates/azure-sql-database-hyperscale-change-tracking-support-now-available/>

[Back to Contents](#)

Data Integration

- Data Factory adds new hierarchical data handling and new flexibility for complex joins
 - Hierarchical data modeling in data flows has been expanded with Flatten, collect aggregation, and updated sink mapping.
 - We have also published a new tutorial on how to use these capabilities when moving from relational to hierarchical with Azure SQL DB and CosmosDB.
 - Non-equi join support added to Join, Lookup, and Exists transformations will land in the coming weeks.
 - You can now switch off native Spark data push-down to execution nodes when performing a join using the broadcast option. The default is auto and you can use "fixed" override the default data flow behavior in Spark by broadcasting only left or right side.
 - <https://azure.microsoft.com/en-us/updates/data-factory-adds-new-hierarchical-data-handling-and-new-flexibility-for-complex-joins/>
 - <https://techcommunity.microsoft.com/t5/azure-data-factory/adf-adds-new-hierarchical-data-handling-and-new-flexibility-for/ba-p/1353956>

[Back to Contents](#)

Analytics and Reporting

- Power BI Desktop April 2020 Feature Summary
 - Personalize visuals (preview)
 - Change detection for page refresh (preview)
 - Relative time filter (preview)
 - Rectangular lasso select across visuals
 - Conditional formatting for totals and subtotals in table and matrix
 - Customize theme dialog is now generally available
 - Improved discoverability for conditional formatting
 - And more...
 - <https://powerbi.microsoft.com/en-us/blog/power-bi-desktop-april-2020-feature-summary/>
- What's new and what's next for Paginated Reports in Power BI in April
 - Subreports feature is now available
 - We have expanded support of the export API to include paginated reports as well. This includes (1) Support for the following file formats – CSV, DOCX, IMAGE, MHTML, PDF, PPTX, XLSX, XML (2) Ability to send parameter values (3) Row-level security support for Power BI datasets
 - <https://powerbi.microsoft.com/en-us/blog/whats-new-and-whats-next-for-paginated-reports-in-power-bi-in-april/>

- <https://powerbi.microsoft.com/en-us/blog/subreports-now-available-for-paginated-reports-in-power-bi/>
- Announcing: Copy a Visual as an Image
 - You can now copy a static image of the visual in the Service along with the visual's metadata including: (1) A link back into the Power BI dashboard or report (2) The title of the report or dashboard the content was copied from (3) If the image contains confidential information (4) The time stamp of when the data was last updated (5) The filters applied to the visual
 - <https://powerbi.microsoft.com/en-us/blog/announcing-copy-a-visual-as-an-image/>
- Announcing new certification capabilities for dataflows
 - Power BI now provides two ways you can increase the visibility of your valuable, high-quality dataflows: promotion and certification
 - Certification is a way to tell users that the organization regards the dataflow as trustworthy and encourages its reuse. Power BI admins can mark dataflows as certified when they are judged to be authoritative.
 - Promotion tells users that a dataflow owner regards a dataflow as good enough to be shared and used throughout the organization.
 - <https://powerbi.microsoft.com/en-us/blog/announcing-new-certification-capabilities-for-dataflows/>

[Back to Contents](#)

AI and IoT

- Forecasting Best Practices, from Microsoft
 - Microsoft has released a GitHub repository to share best practices for time series forecasting
 - <https://github.com/microsoft/forecasting>
- Azure Machine Learning—New log streaming feature is now available
 - <https://azure.microsoft.com/en-us/updates/azure-machine-learning-new-log-streaming-feature/>
- How to use Azure Cognitive Services .NET Speech SDK to recognize speech from a microphone
 - https://www.youtube.com/watch?v=yYIQ_RkLgD8

[Back to Contents](#)

Infrastructure and Management

- Optimize cost and performance with Query Acceleration for Azure Data Lake Storage
 - We're announcing the preview of Query Acceleration for Azure Data Lake Storage—a new capability of Azure Data Lake Storage, which improves both performance and cost.
 - Query Acceleration for Azure Data Lake Storage allows applications and frameworks to push-down predicates and column projections, so they may be applied at the time data is first read, meaning that all downstream data handling is saved from the cost of filtering and processing unrequired data.
 - <https://azure.microsoft.com/blog/optimize-cost-and-performance-with-query-acceleration-for-azure-data-lake-storage/>
- Released: Public Preview for Azure SQL Database Managed Instance Management Pack (7.0.21.0)

- We are releasing a public preview for Azure SQL Database Managed Instance Management Pack for SCOM. If you have a hybrid data environment and SCOM is your preferred monitoring solution, you can now use it to monitor your Azure SQL DB managed instances in addition to on prem SQL Servers, SQL VMs, and Azure SQL DBs.
 - <https://techcommunity.microsoft.com/t5/sql-server/released-public-preview-for-azure-sql-database-managed-instance/ba-p/1340383>
- Azure Blob Storage enhancing data protection and recovery capabilities
 - We are announcing the general availability of Geo-Zone-Redundant Storage (GZRS)—providing protection against regional disasters and Account failover—allowing you to determine when to initiate a failover instead.
 - We are releasing two new preview features: Versioning and Point in time restore
 - <https://azure.microsoft.com/blog/azure-blob-storage-enhancing-data-protection-and-recovery-capabilities/>
- Azure Container Registry: Mitigating data exfiltration with dedicated data endpoints
 - Azure Container Registry recently announced Private Link support, enabling private endpoints from Azure Virtual Networks to be placed on the managed registry service.
 - Azure Private Link is the most secure way to control network access between clients and the registry as network traffic is limited to the Azure Virtual Network, using private IPs. When Private Link isn't an option, dedicated data endpoints can provide secure knowledge in what resources are accessible from each client.
 - <https://azure.microsoft.com/blog/azure-container-registry-mitigating-data-exfiltration-with-dedicated-data-endpoints/>
- DCsv2-series VM now generally available from Azure confidential computing
 - With the general availability of DCsv2-series virtual machines (VMs), we are ushering in the start of a new level of data protection in Azure.
 - There are ways to encrypt your data at rest and while in transit, but confidential computing protects the confidentiality and integrity of your data while it is in use.
 - Azure is the first public cloud to offer virtualization infrastructure for confidential computing that uses hardware-based trusted execution environments (TEEs). Even cloud administrators and datacenter operators with physical access to the servers cannot access TEE-protected data.
 - <https://azure.microsoft.com/blog/dcsv2series-vm-now-generally-available-from-azure-confidential-computing/>
- Cross Region Restore (CRR) for Azure Virtual Machines using Azure Backup
 - We're introducing the preview of Cross Region Restore (CRR) for Microsoft Azure Virtual Machines (VMs) support using Microsoft Azure Backup.
 - This new capability enables customers to perform a restore of backed up data in the secondary region even if there is not a full or partial outage in the primary region for business continuity and disaster recovery drills.
 - <https://azure.microsoft.com/blog/cross-region-restore-crr-for-azure-virtual-machines-using-azure-backup/>
- Azure custom role creation in the Azure portal is now generally available
 - <https://azure.microsoft.com/en-us/updates/azure-custom-roles-portal/>

[Back to Contents](#)

Training and Technical Guides

- AI Show: Time Series Forecasting with Automated Machine Learning
 - Building forecasts is an integral part of any business, whether it's revenue, inventory, sales, or customer demand.
 - Building machine learning models is time-consuming and complex with many factors to consider, such as iterating through algorithms, tuning your hyperparameters and feature engineering. These choices multiply with time series data, with additional considerations of trends, seasonality, holidays and effectively splitting training data.
 - Forecasting within automated machine learning (ML) takes these factors into consideration and includes capabilities that improve the accuracy and performance of our recommended models.
 - This session will highlight the forecasting features of Automated ML and how to leverage them.
 - <https://www.youtube.com/watch?v=IRuMqnWzGPO>
- Learn how to deliver insights faster with Azure Synapse Analytics
 - <https://azure.microsoft.com/blog/learn-how-to-deliver-insights-faster-with-azure-synapse-analytics/>
- Paginated Reports in a Day Online Course
 - <https://docs.microsoft.com/en-us/power-bi/paginated-reports/paginated-reports-online-course>
- Power BI Premium as a Superset of Analysis Services: The XMLA Endpoint
 - <https://aka.ms/PBIwebinar02202020>
- PowerShell 7 Video Series
 - <https://devblogs.microsoft.com/powershell/powershell-7-video-series/>

[Back to Contents](#)

Development and Tools

- Released: Microsoft.Data.SqlClient 1.1.2
 - We recently released an update to Microsoft.Data.SqlClient, version 1.1.2.
 - <https://techcommunity.microsoft.com/t5/sql-server/released-microsoft-data-sqlclient-1-1-2/ba-p/1311082>
- Announcing mssql-cli is now generally available on macOS and Linux
 - <https://cloudblogs.microsoft.com/sqlserver/2020/05/07/announcing-mssql-cli-is-now-generally-available-on-macos-and-linux/>
- The April 2020 release of Azure Data Studio is now available
 - Added new markdown toolbar for Notebooks.
 - Announcing KQL Magic support in Notebooks.
 - Charting in SQL Notebooks can now be saved.
 - Support for Always Encrypted.
 - And more...
 - <https://docs.microsoft.com/en-us/sql/azure-data-studio/download-azure-data-studio?view=sql-server-ver15>

[Back to Contents](#)

Lifecycle Updates

- <http://www.microsoft.com/lifecycle>
- Lifecycle FAQ: <https://support.microsoft.com/en-us/help/17140/lifecycle-faq-general-policy-questions>
- Products Reaching End of Support for 2020 <https://support.microsoft.com/en-us/help/4470235/products-reaching-end-of-support-for-2020>
- Support for Windows 7, Windows Server 2008 R2 and Windows Server 2008 ended on January 14, 2020
- Support for SQL Server 2008 and SQL Server 2008 R2 ended on July 9, 2019.
- SQL Server 2014 moved from Mainstream Support to Extended Support on July 9, 2019.
- Support for SQL Server 2016 SP1 ended on July 9, 2019. Please upgrade to the latest service pack.
- Support for SQL Server 2014 SP1 ended on October 10, 2017. Please upgrade to the latest service pack.
- Support for SQL Server 2012 SP3 ended on October 9, 2018. Please upgrade to the latest service pack.
- SNAC lifecycle explained
 - SNAC 11: SQL 2005 to SQL 2014. Note that SNAC 11 does not support features released with SQL Server 2014 and SQL Server 2016 that were not available as part of SQL Server 2012, such as Transparent Network IP Resolution, Always Encrypted, Azure AD Authentication, Bulk Copy and Table Value Parameters.
 - SNAC 13 (ODBC): SQL 2008 to SQL 2016. Available for Windows and Linux.
 - <https://blogs.msdn.microsoft.com/sqlreleaseservices/snac-lifecycle-explained/>
 - Download the Latest ODBC Driver for SQL Server: <https://docs.microsoft.com/en-us/sql/connect/odbc/download-odbc-driver-for-sql-server>
- Support for .NET Framework 4, 4.5 and 4.5.1 ended on January 12, 2016
 - Please complete the in-place update to .NET Framework 4.5.2
 - The support change **does not affect the support lifecycle policy for older versions prior to .NET Framework 4**. Support for .NET Framework 4.5.2, as well as all other .NET versions such as 3.5 SP1, will continue to be supported for the duration of the operating system support lifecycle.
 - https://support.microsoft.com/en-us/gp/framework_faq

[Back to Contents](#)

SQL Builds

- Where to find information about the latest SQL GDRs (security updates)
 - The Security Update Guide is the authoritative source of information on Microsoft security updates.
 - <https://portal.msrc.microsoft.com/en-us/security-guidance>
 - You can filter by date and product category.
- Where to find information about the latest SQL Service Packs and Cumulative Updates
 - <http://support.microsoft.com/kb/957826>
- Where to find downloads for SQL service packs, setup updates ("Smart Setup"), security updates, and update rollups

- Microsoft Update Catalog <http://catalog.update.microsoft.com/>
- Note: You may have to switch IE to Compatibility View to use the Update Catalog
- SQL version tables and build charts
 - How to determine the version and edition of SQL Server and its components <https://support.microsoft.com/en-in/kb/321185>
 - Unofficial build chart (NOTE the following site is NOT a Microsoft affiliated website) <http://sqlserverbuilds.blogspot.com/>

[Back to Contents](#)

Community Resources

- Microsoft Tech Community. Collaborate, share and learn from experts <https://techcommunity.microsoft.com/>
- Provide Feedback to the Product Group: <https://feedback.azure.com/forums/908035-sql-server>
- Channel 9 - SQL Jump Start Videos. Channel 9 is a Microsoft community site which features video channels, discussions, screencasts and video interviews. <https://channel9.msdn.com/Search?term=sql&sortBy=recent&lang=en=true>
- Microsoft Self-Paced Labs: Acquire the cloud skills you need, at your own pace. Enjoy hands-on learning on your schedule with our free, self-paced labs, and keep your cloud knowledge fresh. <https://www.microsoft.com/handsonlabs/selfpacedlabs>
- Microsoft Learn. Up your game with a learning path tailored to today's developer and technology masterminds and designed to prepare you for industry-recognized Microsoft certifications. <https://docs.microsoft.com/en-us/learn/>

[Back to Contents](#)

Newsletter Archives

- Azure Talking Points: Microsoft Data and AI News <https://aka.ms/AzureTalkingPoints>
- SQL Server Updates and Lessons Learned <https://docs.microsoft.com/en-us/archive/blogs/sqlupdates/>

[Back to Contents](#)

[GENERAL ANNOUNCEMENTS](#)

[DATA PLATFORM](#)

[DATA INTEGRATION](#)

[ANALYTICS AND REPORTING](#)

[AI AND IOT](#)

[INFRASTRUCTURE AND MANAGEMENT](#)

[TRAINING AND TECHNICAL GUIDES](#)

[DEVELOPMENT AND TOOLS](#)

[LIFECYCLE UPDATES](#)

[SQL BUILDS](#)

[COMMUNITY RESOURCES](#)

[NEWSLETTER ARCHIVES](#)