SQLskills Immersion Event

IEAzure: Azure VMs and Azure SQL Database

Module 9: Additional Azure Features

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Overview

- Azure Synapse - Azure SQL Data Warehouse
- Azure Data Factory
- Power BI
- Azure Analysis Services

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Azure Synapse

- **Up to 14 time faster and costs 94% less than other cloud providers**
- **Massive query concurrency**
  - Democratize data across your enterprise
- **Quick and easy provisioning**
  - Provision thousands of compute cores in less than five minutes, scale to a petabyte in just hours
- **Advanced security**
  - Protect your data with virtual networks, virtual network service endpoints, advanced threat detection, always-on encryption, auditing, and simplified secure access
- **SQL-based and fully managed**
- **Pay for what you use**
- **Cost as little as USD $1.20 /hour**

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Azure Synapse

- **Strong Ecosystem**
  - Integrate with leading data preparation and visualization vendors
- **Industry-leading compliance**
  - Ensure peace of mind with more than 50 government and industry compliance certifications, including HIPAA
- **Integrated data processing**
  - Ingest and query from multiple data types and sources within a solution
- **Elastic design**
  - Scale compute and storage independently
- **Fully managed infrastructure**
  - Automate infrastructure allocation and workload optimization based on data analysis, leverage the built-in advisor to help optimize
- **Global availability**
  - 40 Azure regions

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Azure Data Factory

- Globally-deployed data movement service in the cloud
- Access and ingest data with built-in connectors
- Build scalable data flow with codeless UI, or write you own
  - Visual drag-and-drop UI
  - Build, deploy, transform, and manage your data
- Schedule, run, and monitor your data pipelines
- SSIS migration to cloud
  - Lift and shift your SSIS packages to Azure
  - Get high availability and scalability, and reduce your cost
- Multiple language support
  - Python, .Net, or ARM to build pipelines
- Hybrid data movement and transformation
  - More than 80 natively supported connectors

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Azure Analysis Services

- Transform complex data into one version of the truth
- Match performance to the speed of the business
- Secured access anytime, from anywhere
- SQL Server 2016 tabular models can transfer in
- Same secure environment as other resources
- Compliance is built-in
- Cost as little as USD $ 0.132 /hour for developer
  $ 0.43 /hour for basic
  $ 0.81 /hour for standard

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Power BI: Experience Your Data
Any Data, Any Way, Anywhere

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Build Personalized Self-Service Dashboards

- Dashboards to view key data, in single pane of glass
- Build dashboards by pinning visualizations from reports, Q&A, or other visuals
- Data is visualized on dashboard as tiles
- Change tiles - resize, move, rename, pin, delete, add hyperlink
- Choose different view modes:
  - Full Screen
  - Fit to Screen
  - In-Focus (for individual tiles)
- Control color scheme of dashboard
  - Branding templates are now available

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Power BI Reports and Dashboards

- **Visualize data in a variety of ways**
- **Growing number of visualization types**
  - Donuts, basic area, waterfall, filled maps, tree maps, funnel, gauges combo charts and more
  - Custom visuals available from Power BI Visuals Gallery (Office Store) & Power BI Marketplace (In Tool)
  - Tools to develop, test, package new custom visuals
- **Visualizations on report page are connected – select value in one visualization to change other visualizations**
- **Full screen pop out mode for report visuals to show additional details**

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Power BI Reports and Dashboards

- **PBI Service Key Features:**
  - **Cortana Integration and Q&A**
  - **Quick Insights enhancements including discovery of more data patterns**
  - **PowerPoint support and built-in story telling features**
  - **Publish Excel content directly to Power BI**
  - **Real-time dashboard widgets and global filters**
  - **Alerts and notifications keep you informed and up to date**
  - **Enhanced administration, auditing, and cross-tenant support**

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Power BI Premium

- Offers dedicated cloud compute and storage resources
- Provides on-premises reporting capabilities with Power BI Report Server
- Allows for deploying Power BI content to multiple Azure regions
- Provides incremental data refresh
- Publish and consume paginated reports in Power BI
- Provides the ability to monitor performance of dedicated compute and memory resources
- Up to 10GB per individual data set
- Maximum 100TB storage compared to 10GB per user with Power BI Pro
- Up to 48 automatic refreshes per day – 8 with Power BI Pro

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Power BI Desktop

- Report authoring made easy, many drag-and-drop visualizations
- You can connect to your data, wherever it is
- Prepare and model your data with confidence and ease
- You can provide advanced analytics with the familiarity of Excel
- Create interactive reports for your customers that are customized for their business
- You can author for everyone, anywhere by creating mobile-optimized reports, publish to the cloud, or on-premises

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Power BI Desktop

- Prepare, explore, report, and collaborate with Power BI Desktop
- Acquire and prepare data with extensive query capabilities
- Establish data structure and transform and analyze data
- Explore data in new ways through a freeform, drag-and-drop canvas
- You can author reports with a broad range of modern data visualizations
- Publish directly to Power BI Report Server or Power BI Service
- Download for free

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SQL Server Mobile Report Publisher

- Stand-alone tool for creating rich mobile reports

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Data Sources

- In Report Builder and Report Designer, you can add a shared data source or create an embedded data source for your report
- A shared data source is a set of data source connection properties that multiple reports, models, and data-driven subscriptions can reference
- Shared data sources are required for report models, however, are optional for data-driven subscriptions and reports
- Data sources can be created, modified, and deleted
- Data sources can be converted from shared to embedded and embedded to shared
- Datasets represent the result set from running a query command on a data source

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Data Sets

- Datasets represent the result set from running a query command on a data source
- Embedded datasets: instead of working directly with data, in Report Builder or Report Designer, you work with metadata that represents the data that will be retrieved in the report.
- Shared datasets: use shared datasets when you want to use a database in more than one report. Use Report Builder in shared dataset design view to create shared datasets.

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Demo Mania

- Power BI Desktop Walkthrough
  - **My favorite visuals**
  - **Features that pop**
  - **Marketplace**

Key Takeaways

- Some SQL Server modules that we are used to have been enhanced by robust cloud versions
- Azure SQL Data Warehouse
- Azure Data Factory is comparable to SSIS
- Azure Analysis Services is finally a cloud solution
- Power BI can be leveraged on-premises and in the cloud

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Review

- Azure SQL Data Warehouse is an elastic database warehouse as a service with enterprise class features
- Azure Data Factory – data transformation
- Power BI – any data, any way, anywhere
- Azure Analysis Services – enterprise analytics engine as a service

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Recommendation: Leverage Great Products!

SentryOne™

- Even with as much training as we will provide, you can't know everything
- SQL Server is powerful, complex, and has lots of different potential issues let third party software help!
- SQLskills partners with SentryOne because we really feel they've made the best suite of SQL Server products available
- LEARN MORE: Join Andy Yun and Devon Wilson, from SentryOne on Wednesday, March 10, at 10:00am PT / 1:00pm ET
  - Going Beyond Just Monitoring With SentryOne
  - https://global.gotomeeting.com/join/125521293
  - Attendees of the GoToMeeting will EACH receive:
    - SQL Sentry Premium subscription license (6 months)
    - Raffle for additional SentryOne gift pack
  - Plus, get *your* questions answered!
    - Email Andy or Devon your specific monitoring questions (*no later than Tuesday, Mar 9 at 10am PT*)
      MailTo: ayun@sentryone.com
      MailTo: dwilson@sentryone.com

SQL Server Monitoring

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Questions?
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