Microsoft

Azure SQL Database Essentials

State of Maine
January 19th, 2024
9:00am - 3:00pm EST

John Deardurff

Cloud Solution Architect (Global Delivery Team)
Microsoft Certified Trainer (2000 - Current)
MVP: Data Platform (2016 – 2018)

Email: John.Deardurff@Microsoft.com
Twitter: @SQLMCT
Website: www.SQLMCT.com
GitHub: github.com\SQLMCT

Classified as Microsoft Confidential

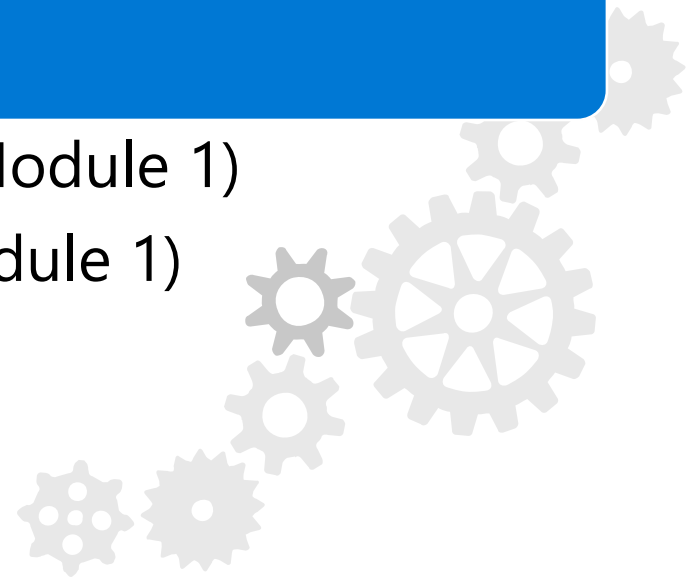
Agenda Day 1

Introduction to Azure SQL Database

- Basic concepts of Azure SQL Database
- SQL Server IaaS vs PaaS Solutions (Moved from Lesson 4)
- How to create Azure SQL Database
- Introduction to Elastic Database Pools

Azure SQL Database Administration

- Various Tools to Manage Azure SQL Database (Moved to Module 1)
- Scaling Azure SQL Databases Up and Down (Moved to Module 1)
- Maintenance and Scheduling Jobs (Moved to Day Two)
- Azure SQL Database Read Scale-Out (Moved to Day Two)



Agenda Day 2

Azure SQL Database Administration (Moved from Day One)

- Maintenance and Scheduling Jobs in Azure SQL Database

Azure SQL Database Business Continuity

- Business Continuity Features in Azure SQL Database
- Disaster Recovery Features in Azure SQL Database
- Backing up and Restoring Azure SQL Database (Moved from Lesson 1)

Manage Security for Azure SQL Database

- Introduction to Azure SQL Database Security
- Implement Entra ID Security
- Manage Logins in Azure SQL Database
- Implement Firewall Rules and Virtual Networks
- Implement Transparent Data Encryption
- Implement Always Encrypted
- Implement Row Level Security
- Implement Dynamic Data Masking

Agenda Day 3

Manage Security for Azure SQL Database (Moved from Day Two)

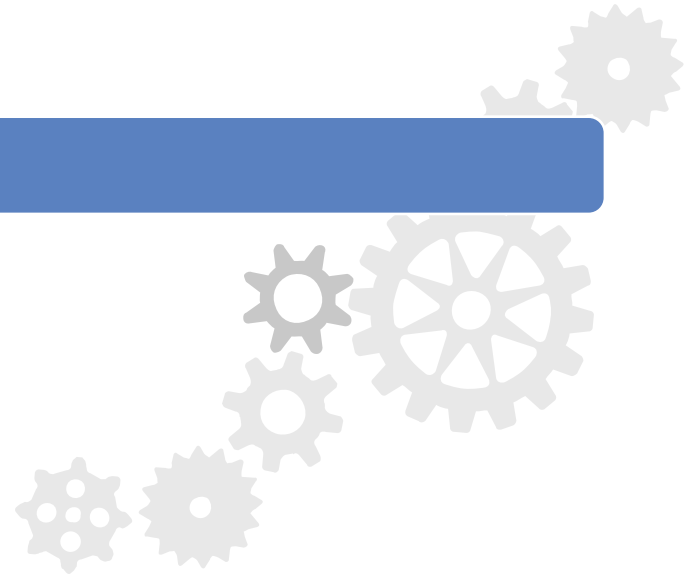
- Implement Auditing for Azure SQL Database
- Data Discovery and Classification
- Implement Microsoft Defender for SQL

Monitoring and Tuning Azure SQL Database

- Monitoring and Troubleshooting Azure SQL Database
- Monitoring Query Performance using Query Performance Insight
- Azure SQL Database Tuning using Automatic Tuning
- Monitoring Azure SQL Database Performance using Extended Events
- Configure Alerts through Azure Portal

Azure SQL Database Migration

- Steps to migrate your database to Azure SQL Database
- Fix database migration compatibility issues
- Identify the right Azure SQL Database SKU
- Migrate a compatible SQL Server database to Azure SQL Database



Lab Times - (Minutes)

M01L02Lab01 - Create an Azure SQL Database (20)

M02L01Lab01 - Various Tools to Manage Azure SQL Database (30)

M02L02Lab01 - Scale up or down an Azure SQL Database (10)

M02L03Lab01 - Elastic Database Jobs (30)

M03L01Lab01 - Point in time restore of an Azure SQL Database (20)

M03L02Lab01 - Configure Geo Replication for an Azure SQL Database (20)

M04L06Lab01 - Implement Always Encrypted (20)

M04L07Lab01 - Implement Row Level Security (10)

M04L10Lab01 - Vulnerability Assessment (20)

M05L02Lab01 - Monitoring Query Performance using Query Performance Insights (15)

M05L05Lab01 - Monitoring Azure SQL Database Performance using Extended Events (10)

M06L05Lab01 - Migrate a Compatible SQL Server Database to Azure SQL Database (30)

M06L06Lab01 - Azure SQL Data Sync (20)

Recommended Links

Welcome to the Azure SQL Database Essentials Workshop.
Below you will find some additional information to help continue your learning journey.

Azure SQL documentation
Microsoft Learn: Azure Data
Try the Azure SQL Workshop
Azure SQL for Beginners
Physical security of Azure datacenters
Microsoft Azure Sustainability
Choosing the Correct Tools
Identify Correct Azure SQL SKU
Plan and manage costs for Azure SQL Database
Azure Database Migration Guides
Azure SQL Capacity Planning
Monitoring and performance tuning Azure SQL DB
Performance tuning guidance for Azure SQL DB
Automate Azure SQL Database indexes and statistics
Autoscaling Azure SQL Databases using Runbooks and Alerts
Cloud business continuity - disaster recovery
High availability - Azure SQL Database
Zone redundancy for Azure SQL Database
Restore a database from a backup in Azure SQL DB
Data Integrity checks in Azure SQL Database

Attendee Introductions

Name

Job/Team/Specialty

Time Zone

Experience

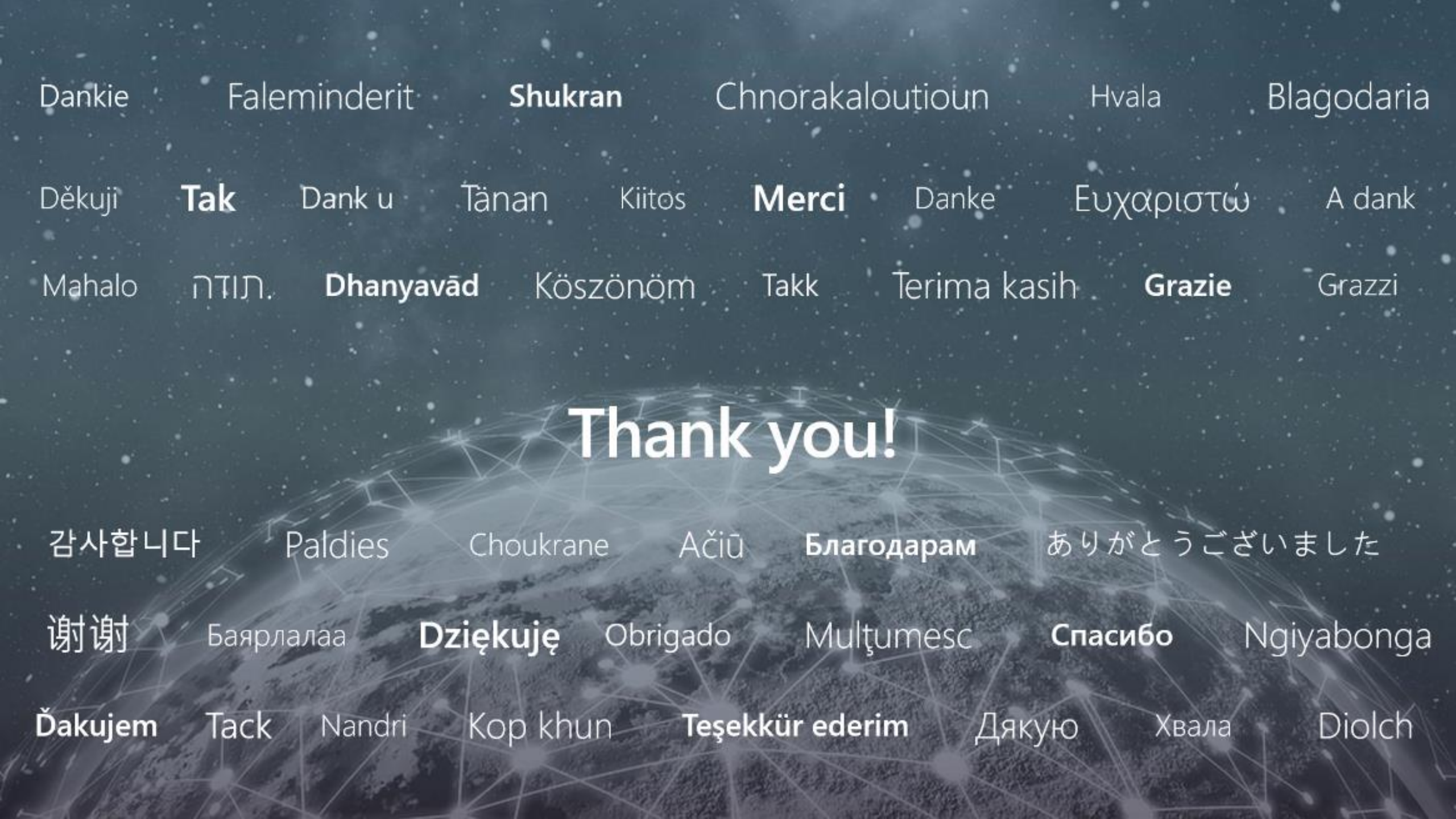
Expectations

Get Ready to Participate

Close email and Update Status

Make it interactive

Check all equipment


Dankie
Faleminderit
Shukran
Chnorakaloutioun
Hvala
Blagodaria
Děkuji
Tak
Dank u
Tänan
Kiitos
Merci
Danke
Ευχαριστώ
A dank
Mahalo
תודה.
Dhanyavād
Köszönöm
Takk
Terima kasih
Grazie
Grazzi
Thank you!
감사합니다
Paldies
Choukrane
Ačiū
Благодарам
ありがとうございました
谢谢
Баярлалаа
Dziękuję
Obrigado
Mulţumesc
Спасибо
Ngiyabonga
Ďakujem
Tack
Nandri
Kop khun
Teşekkür ederim
Дякую
Хвала
Diolch

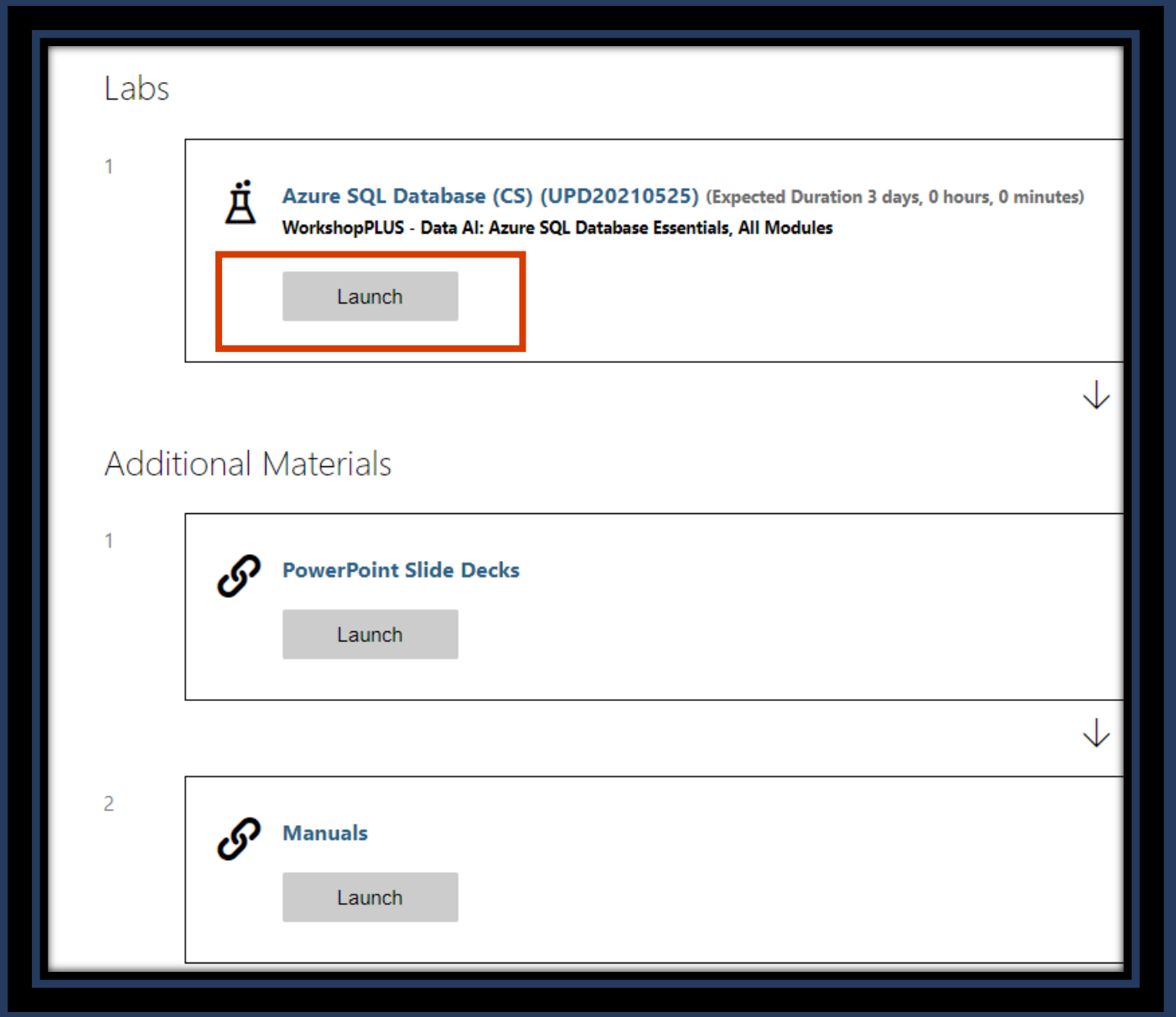
© Copyright Microsoft Corporation. All rights reserved.

Microsoft

Class Resources

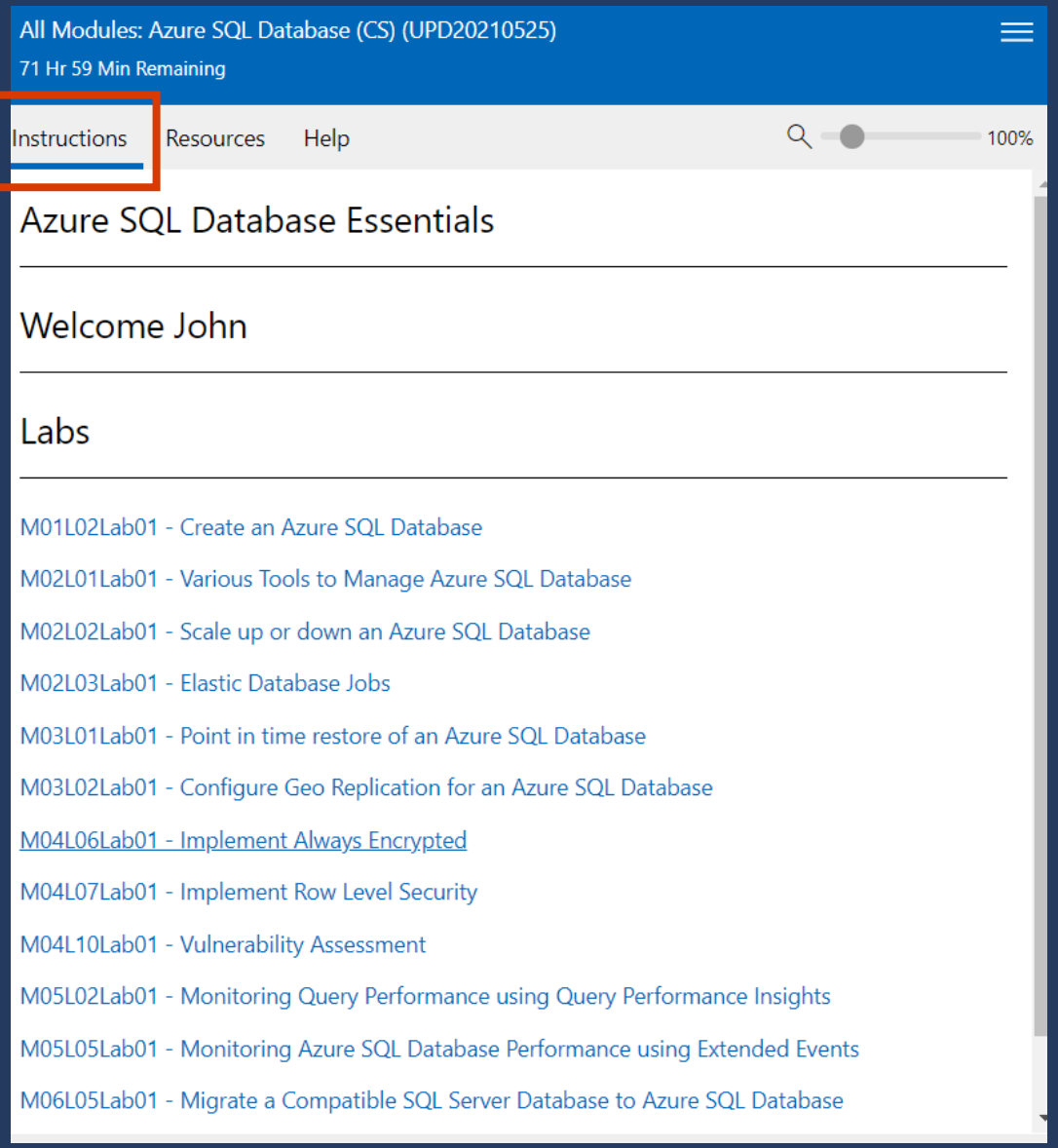
Virtual Lab Environment, Slides Decks, Lab Manuals, and Demo Files

In the Labs section, click Launch



Lab environment

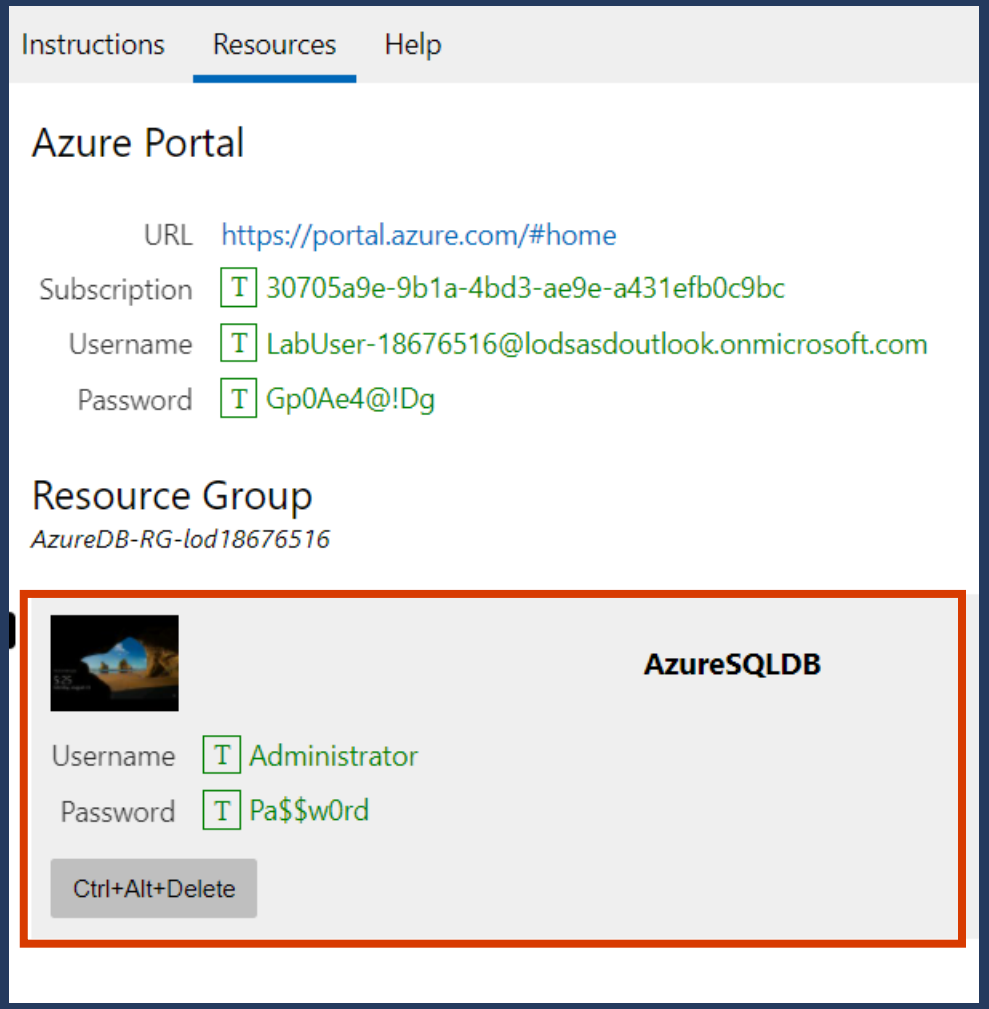
Lab Instructions are shown on the right side of the virtual machine.



Virtual Machine Lab Environment

Use the Ctrl+Alt+Delete button to logon to the virtual machine.

You can click on the T next to Username and Password to paste in the virtual machine.

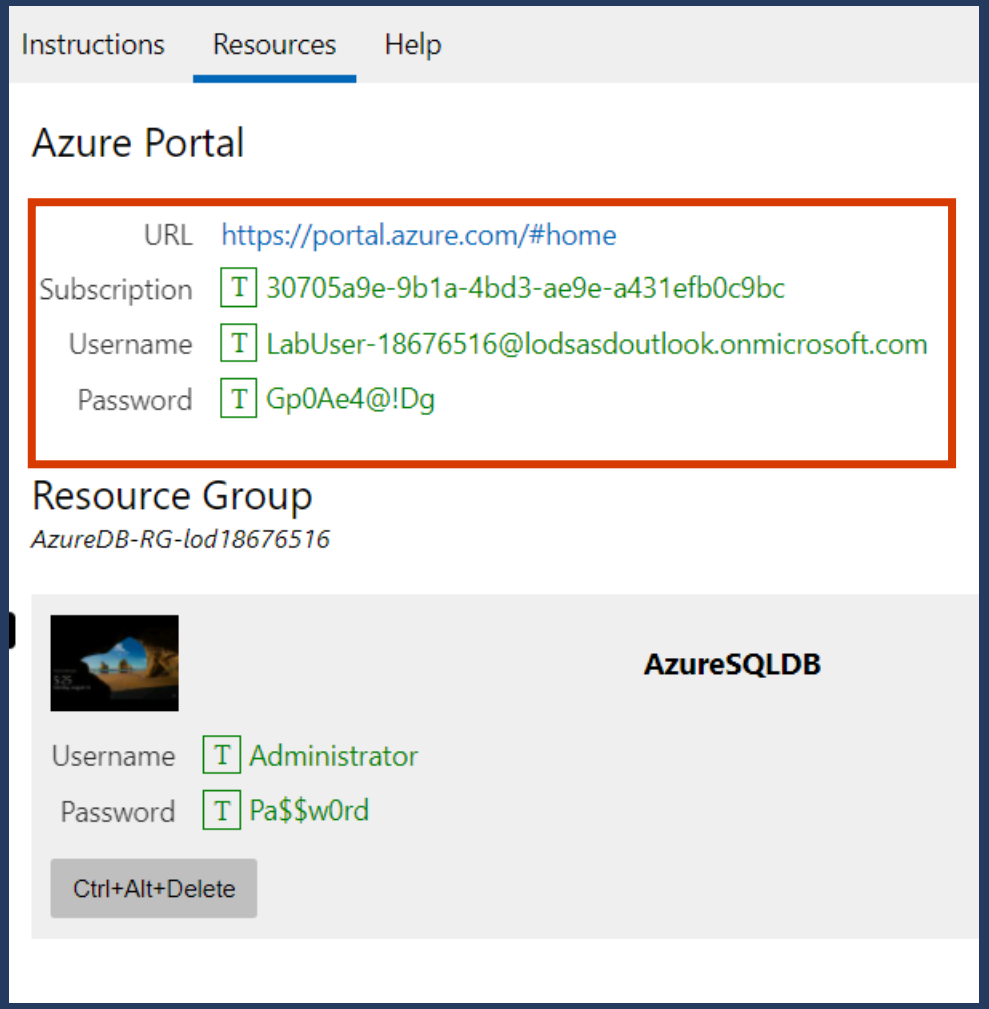


Azure Portal Environment

You must access from the Azure Virtual Machine.

Each lab has a unique Subscription, Username, and Password

You can click on the T next to Username and Password to paste in the virtual machine.



Lab Time Remaining

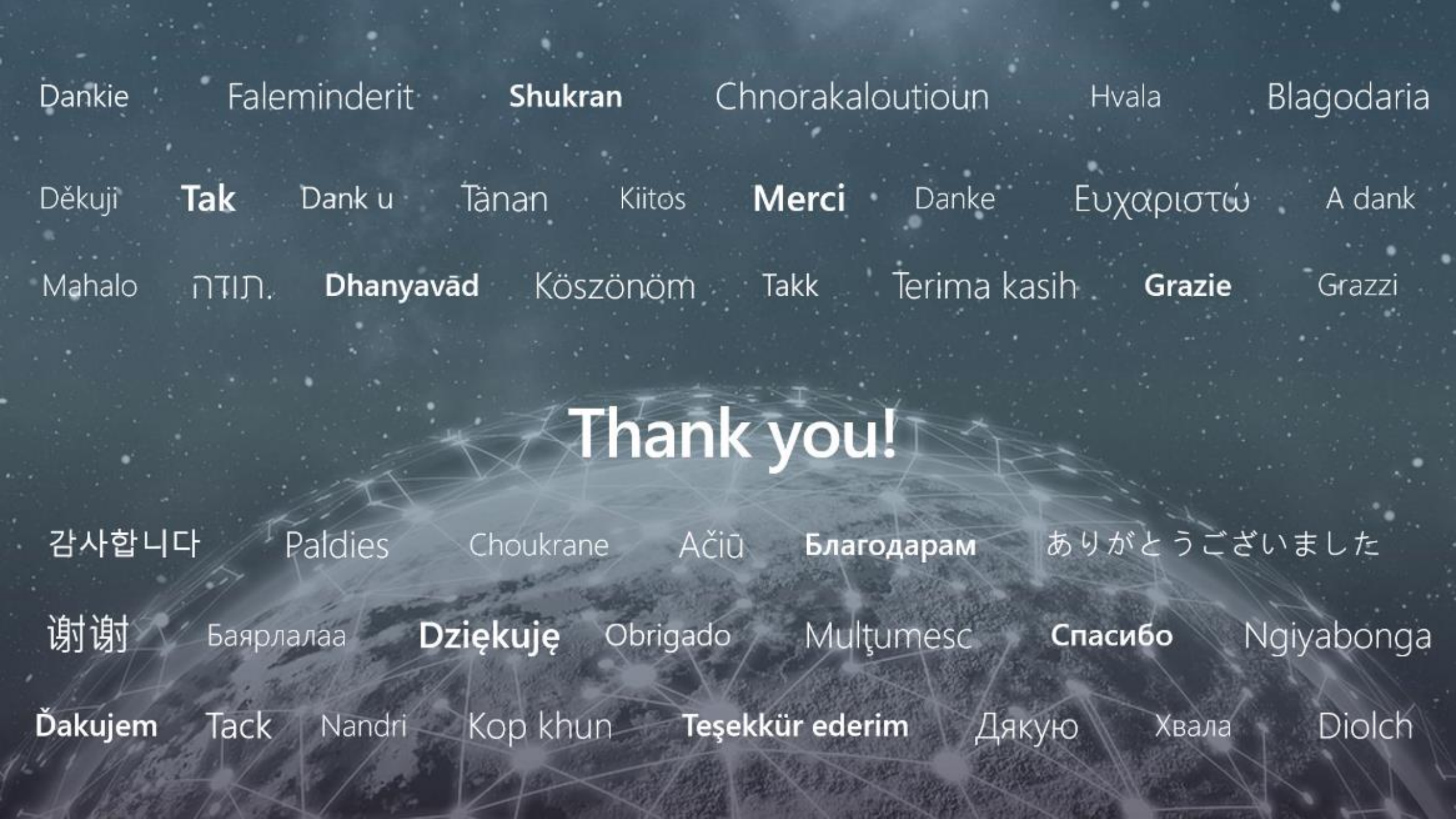
- Select **Save** before leaving the Lab environment.
- If you click **End** the lab will reset.
- You can save up to 5 labs for up to 7 days.
- The lab environment is available for 180 days.
- Split Windows will allow you to move the instructions to a separate screen.

Get Ready to Participate

Close email and Update Status

Make it interactive

Check all equipment


Dankie
Faleminderit
Shukran
Chnorakaloutioun
Hvala
Blagodaria
Děkuji
Tak
Dank u
Tänan
Kiitos
Merci
Danke
Ευχαριστώ
A dank
Mahalo
תודה.
Dhanyavād
Köszönöm
Takk
Terima kasih
Grazie
Grazzi
Thank you!
감사합니다
Paldies
Choukrane
Ačiū
Благодарам
ありがとうございました
谢谢
Баярлалаа
Dziękuję
Obrigado
Mulţumesc
Спасибо
Ngiyabonga
Ďakujem
Tack
Nandri
Kop khun
Teşekkür ederim
Дякую
Хвала
Diolch

© Copyright Microsoft Corporation. All rights reserved.