



WorkshopPLUS - SQL Server: Features and Administration

**Microsoft Open
Workshop**

June 17th – 19th, 2024

10:00am – 6:00pm EST





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Microsoft Certified Trainer (2000 - Current)

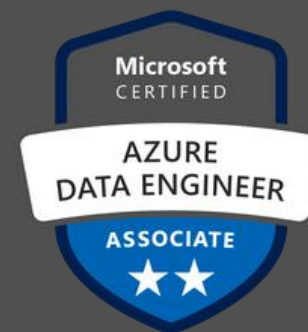
MVP: Data Platform (2016 – 2018)

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GitHub: github.com/SQLMCT



Objectives

After completing SQL Server Features and Administration workshop, you will be able to:

Learn Maintenance and configuration best practices

Monitoring performance with extended events and performance monitor.

Discuss SQL Server performance enhancements.

Learn SQL Service Account best practices.

Understand Row Level Security and Dynamic Data Masking

Understand SQL Server encryption features including Always Encrypted.

Learn different strategies for meeting HA/DR SLAs with SQL Server


Understand the benefits of SQL Server Failover Clustering and SQL Server availability groups.

Agenda Day 1

SQL Server Configuration And Database Maintenance

- Windows Server Configuration
- SQL Server Configuration
- Database Configuration
- Database Maintenance

Monitoring And Troubleshooting


- Monitoring Tools
 - Waits Methodology To Monitor Performance
 - Execution Plans
 - Query Store
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- A series of decorative gear icons of varying sizes and shades of gray, arranged in a cluster at the bottom right of the slide.

Agenda Day 2

Performance Features

- In-Memory OLTP Objects
- Columnstore Indexes
- Intelligent Query Processing
- Automatic Tuning

Security – General

- SQL Service Accounts
 - Dynamic Data Masking
 - Row Level Security
 - SQL Server Auditing
 - SQL Server Ledger
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- A cluster of several light gray gear icons of varying sizes is positioned in the bottom right corner of the slide, partially overlapping the right-hand content area.

Agenda Day 3

Security - Encryption

- Backup Encryption
- Transparent Data Encryption (TDE)
- Encrypted Connections
- Column Level Encryption
- Always Encrypted

SQL Server High Availability

- Defining High Availability and Disaster Recovery
- Introduction to Failover Cluster Instances
- Introduction to Availability Groups

SQL Server Disaster Recovery

- Disaster Recovery
- Backups
- Restores
- Backup Features

Cloud Connected

- Azure Arc-Enabled SQL Server
- Microsoft Azure Purview



Follow-up workshops

SQL Server Performance Tuning and Optimization (4-days)

SQL Server Security Essentials (3-days)

SQL Server: Always On Availability Groups

- Setup and Configuration (3-days)
- Monitoring and Troubleshooting (3-days)

Azure SQL Database Essentials (3-days)

Several decorative gear icons of varying sizes are scattered in the bottom right corner of the slide, adding a technical or mechanical theme to the design.

Get Ready to Participate

Close email and Update Status

Make it interactive

Check all equipment

Be Respectful of Others



Attendee Introductions

Name

Job/Team/Specialty

Time Zone

Experience

Expectations



Five Star Service

We strive to respond to your feedback and use it to improve our business and ultimately to improve your experience with us.




Thank you!

Look for this survey in your inbox:

It will come from Microsoft Surveys
<noreply.survey@email2.microsoft.com>

Take the survey | [View it online](#)

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This survey is specific to your **Proactive Support services delivery**:


Overall, how satisfied are you with your recent experience with the Microsoft Proactive Support Services delivery?

- ☐ [Very satisfied](#)
- ☐ [Somewhat satisfied](#)
- ☐ [Somewhat dissatisfied](#)
- ☐ [Very dissatisfied](#)
- ☐ [Do not know](#)

Thanks for your feedback. If you need help, please [contact us](#).

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 Microsoft

Dankie Faleminderit **Shukran** Chnorakaloutioun Hvala Blagodaria

Děkuji **Tak** Dank u Tānan Kiitos **Merci** Danke Ευχαριστώ A dank

Mahalo מודה. **Dhanyavād** Köszönöm Takk Terima kasih **Grazie** Grazzi

Thank you!

감사합니다 Paldies Choukrane Ačiū **Благодарам** ありがとうございます

谢谢 Баярлалаа **Dziękuję** Obrigado Mulțumesc **Спасибо** Ngiyabonga

Ďakujem Tack Nandri Kop khun **Teşekkür ederim** Дякую Хвала Diolch

Connect to Lab environment

Prerequisites and Overview

Using the desktop version of IE go to

- <https://aka.ms/premiereducation>

Sign in with your Microsoft account

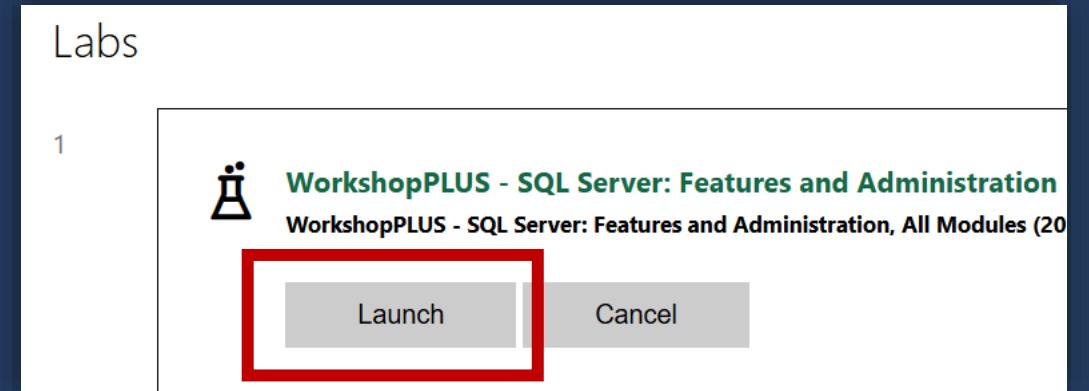
- Live ID or Azure ID
- If you do not have one, then create it here:
- <http://live.com>

Training Key

- WorkshopPLUS -> My Training (Select at the top)
- Select Redeem Training Key
- Enter Training Key

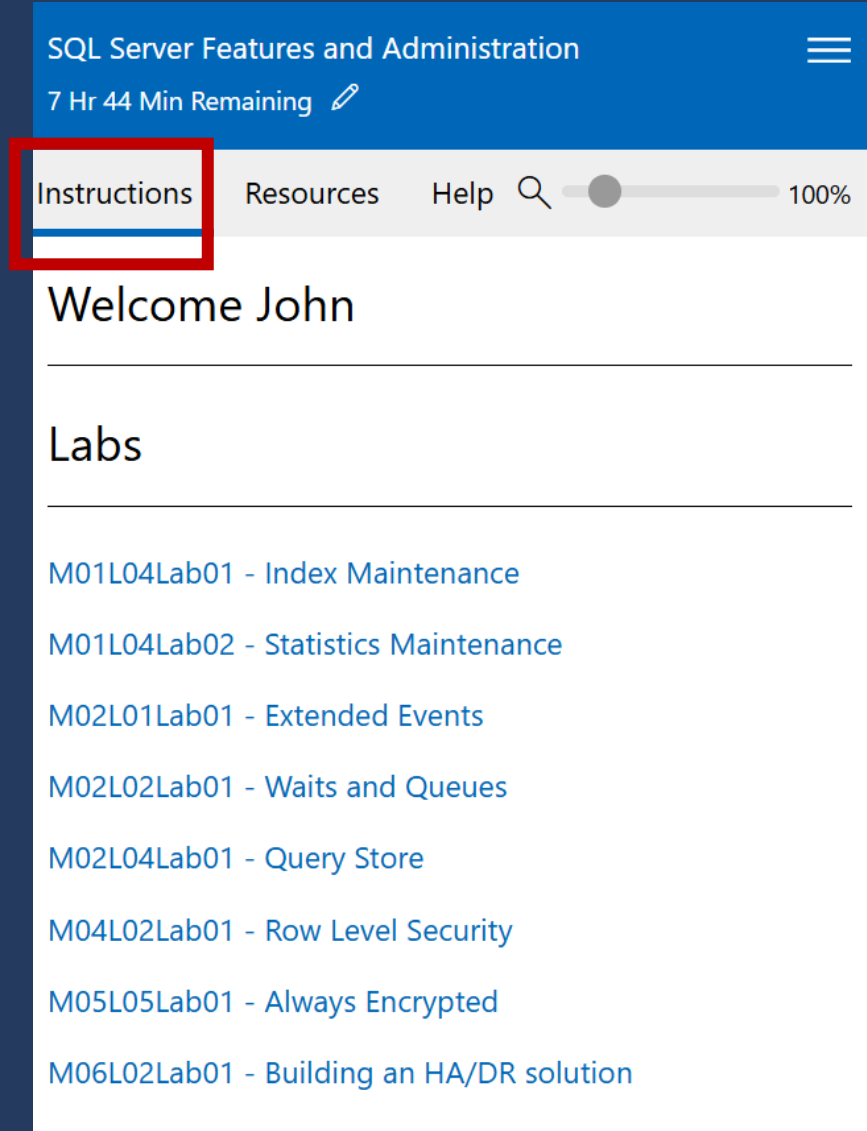
Launch Lab

In the Labs section, click Launch



Lab Instructions

The first page show the lab instructions.



The screenshot displays the 'SQL Server Features and Administration' window. The top blue header bar contains the title 'SQL Server Features and Administration' and a hamburger menu icon on the right. Below the header, a status bar shows '7 Hr 44 Min Remaining' with a pencil icon. A navigation bar below the status bar includes the 'Instructions' tab (highlighted with a red box), 'Resources', and 'Help' with a search icon. A volume slider is set to 100%. The main content area shows a 'Welcome John' message, followed by a 'Labs' section header. Below this, a list of lab titles is displayed: 'M01L04Lab01 - Index Maintenance', 'M01L04Lab02 - Statistics Maintenance', 'M02L01Lab01 - Extended Events', 'M02L02Lab01 - Waits and Queues', 'M02L04Lab01 - Query Store', 'M04L02Lab01 - Row Level Security', 'M05L05Lab01 - Always Encrypted', and 'M06L02Lab01 - Building an HA/DR solution'.

SQL Server Features and Administration

7 Hr 44 Min Remaining

Instructions Resources Help

Welcome John

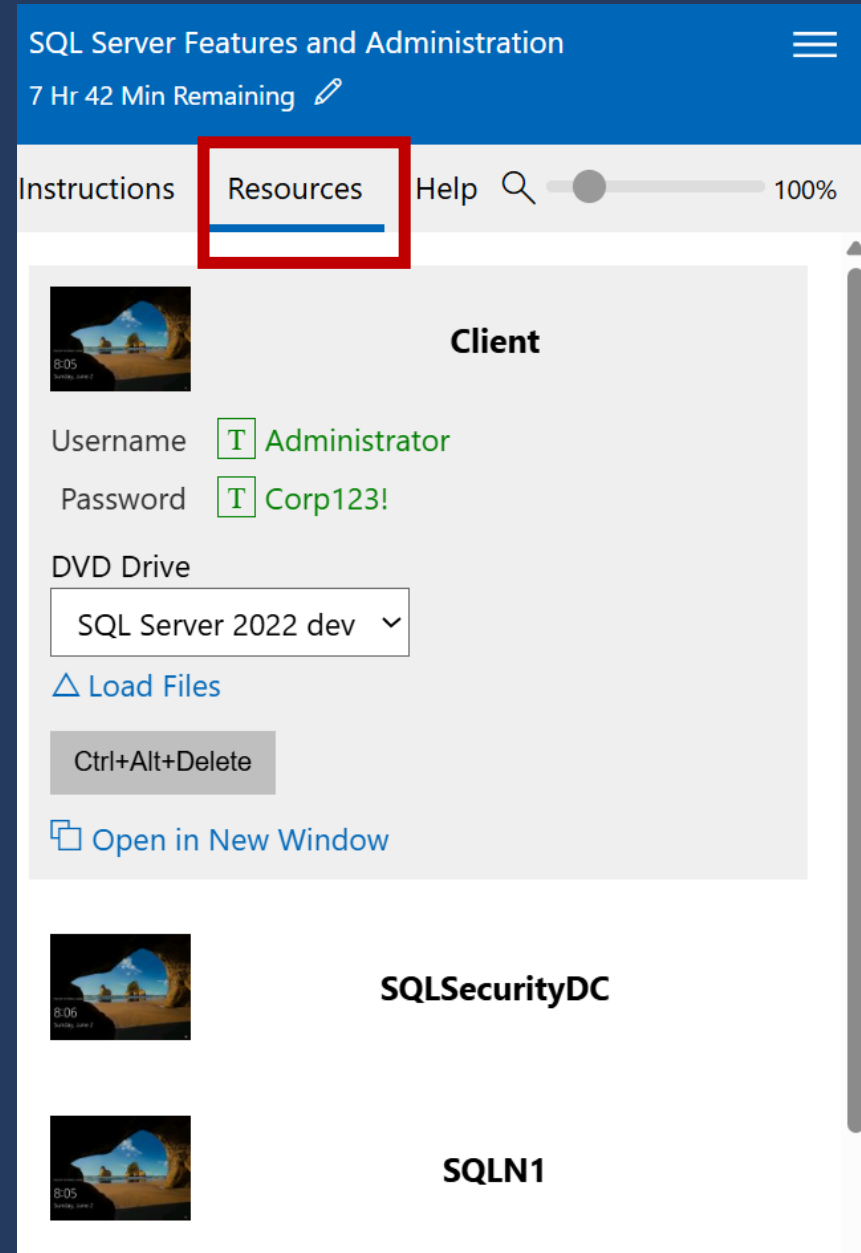
Labs

- M01L04Lab01 - Index Maintenance
- M01L04Lab02 - Statistics Maintenance
- M02L01Lab01 - Extended Events
- M02L02Lab01 - Waits and Queues
- M02L04Lab01 - Query Store
- M04L02Lab01 - Row Level Security
- M05L05Lab01 - Always Encrypted
- M06L02Lab01 - Building an HA/DR solution

Lab environment LOD

Click on the resources tab to switch between your virtual machines and to Login.

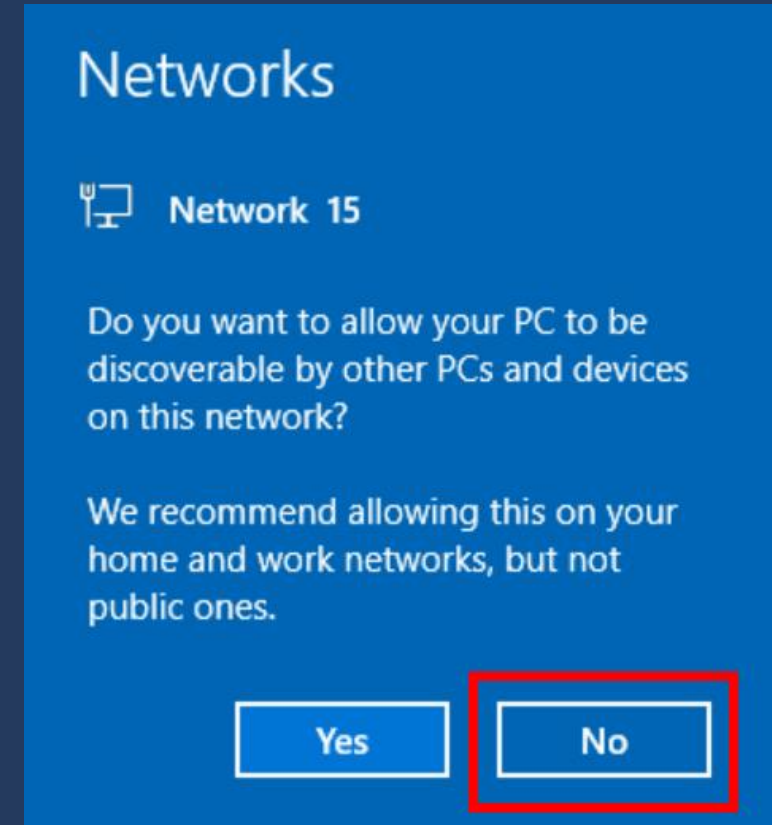
The **Green T** will paste in login information



Lab environment LOD Network Settings

Select Yes or No to allow the server to be discoverable.

It doesn't matter in this training environment.



LOD Lab Time Remaining

Ensure you select Save before leaving the LOD environment. This pauses the time remaining to complete the Labs.

