DP-080T00
Querying Data with Microsoft Transact-SQL
Trainer Preparation Guide

September 2023

Purpose

This document is for Microsoft Certified Trainers preparing to teach DP-080T00: Querying Data with Microsoft Transact-SQL. This course is designed for students who are performing database administration tasks in their daily job.

Course description

Transact-SQL is the query language used to work with Microsoft relational database sources, including SQL Server, Azure SQL Database, and Azure Synapse Analytics. Being able to write Transact-SQL queries is an essential skill for anyone who needs to use databases as a source for data analysis and reporting or application development. This 2-day course focuses on the core elements of the Transact-SQL language that addresses most querying requirements.

Learning objectives

After completing this course, students will be able to:

- Use SELECT to retrieve columns from a table
- Sort and filtering query results
- Use joins and subqueries to retrieve data from multiple tables
- Use built-in functions, aggregations, and groupings
- Insert, update, and dele data

Audience profile

This course can be valuable for anyone who needs to write basic SQL or Transact-SQL queries. This includes anyone working with data as a data analyst, a data engineer, a data scientist, a database

administrator or a database developer. It can also be useful for others peripherally involved with data, or wanting to learn more about working with data such as solution architects, students and technology managers.

Prerequisite Knowledge to teach this course

To successfully teach these courses, instructors must have a solid knowledge of Transact-SQL syntax, and experience working with relational data in systems such as SQL Server, Azure SQL Database, or Azure Synapse Analytics

Required materials to prepare for and teach this course

You need the following materials to prepare for and teach this course:

Resource	Description
Microsoft PowerPoint files	Download the **DP-080T00A-ENU-PowerPoint.zip** from the MCT Download Center.
Change Log	Download the **DP-080T00A-ENU-Change-log** from the MCT Download Center.
Lab environment provided by your lab hosting provider	Contact your lab hosting provider for instructions on using their lab environment.
Lab instructions	The lab instructions are provided in the lab environment and in the DP-080 Microsoft Learning GitHub repository https://microsoftlearning.github.io/dp-080-Transact-SQL/
Student training content	See the following section for a detailed breakdown of each Learning Path covered in the course.

Student training content

The student training content for this course is located in Microsoft Learn. The following table provides a breakdown of each Learning Path, the modules covered in each, and the link to each LP in Microsoft Learn.

The student training content includes links to additional reading material to help you prepare for specific topic areas.

Learning Path	Online training in Microsoft Learn
Course Introduction	Slides only

Course DP-080T00--A: Querying Data with Microsoft Transact-SQL - Training | Microsoft Learn	**Module 1:** Introduction to Transact-SQL **Module 2:** Sort and filter results in T-SQL **Module 3:** Combine multiple tables with JOINs in T-SQL **Module 4:** Write Subqueries in T-SQL **Module 5:** Use built-in functions and GROUP BY in Transact-SQL

Preparation tasks

Instructors should complete the following tasks to prepare for teaching this course:

- If you have previously taught this class, refer to the course's Change Log. It provides detailed information on how the course has changed over time. The Change Log is updated for each course release.
- Review all topics in the student training material in Microsoft Learn (see the link in the Required Materials section above). You should be well-versed in every topic. If you have previously taught the course and are comfortable with your knowledge of each topic, focus primarily on the new or updated topics as outlined in the Change Log.
- Review the PowerPoint slides.
    - Be able to speak to each of the talking points on the slides. Some slides include a graphic from the associated Learn content for the topic. These graphics are provided on the slide so that you can speak to them to help explain the key talking points in the topic.
    - **The bulleted items on each slide should NOT be read verbatim to the students.** The students can read the slides themselves. Rather, the bullet points reflect the key information that you should focus on when discussing each topic. You should use your experience as a subject matter expert to explain the What, the Why, and the How of each topic. **This is your opportunity to provide a real value-add above and beyond the bulleted talking points.**
- Review the Additional Reading links and other linked resources provided in the student training material. **It's recommended that you present key points from this material to supplement the value-add you provide as an instructor.**
- As you prepare for the class, you should review each unit and determine which ones you want to perform demonstrations of the corresponding product functionality. It's up to you to decide which product features you want to demonstrate to the class. You should use your experience to identify key points during the demonstration process. **This is an area where you should rely on your experience as a subject matter expert to provide additional value-add to the students.**
- You should review each Knowledge Check (KC) question so that you know why the correct answer is correct for each question. Students may challenge some of the questions, so you must be able to address any of those concerns.
- You should perform the labs yourself prior to class so that you become familiar with them and with any of the difficult points in the lab exercises. This will prepare you for helping students in case they get stuck.

Course timing

Daily agenda

The following agenda provides estimated times to complete each classroom activity. However, the estimated times may vary depending on the background of your students, which may affect whether you can move faster or slower through the course material.

Estimated times for each section include the time to complete:

- The section's PowerPoint slide deck presentation.
- Any pre-defined product demonstrations.
- Time to review Knowledge Check questions (see the section on Additional Timing Notes below).

You should adjust the agenda accordingly based on any classroom activities that you personally created or plan to deliver that are not included in the slides for this course. For example, if you plan to present:

- ad-hoc demonstrations
- review activities
- classroom games
- and so on…

Note: Each Learning Path/Module activity in the following agenda is the slide deck presentation for that module.

The following table provides delivery specifications for a 2-day course. For courses taught in a longer format such as part pf the MSLE program, review the **Design your syllabus** section of the **Educator Teaching Guide** found on the Learning Download Center.

Day	Estimated Time	Classroom activity
1	15 minutes	Course Introduction slide deck (time may vary due to the number of student introductions in a given course)
	95 minutes	Slide deck 1: Getting Started with Transact-SQL
	135 minutes	Slide deck 2: Sorting and Filtering Results
	135 minutes	Slide deck 3: Using Joins and Subqueries
2	15 minutes	Recap day 1
	75 Minutes	Slide deck 3: Using Joins and Subqueries (cont'd)
	90	Slide deck 4: Using Built-in Functions

	Minutes	
	135 Minutes	Slide deck 5: Modifying Data

Additional timing notes - Knowledge check questions

Knowledge check (KC) questions are provided throughout the course to check the student's knowledge of the material that was covered. Instructors can use these KC questions in several ways:

- Conduct a formal classroom exercise in which you go through the questions in a section before moving on to the next section.
- Sprinkle the questions into the content as you cover the related material for a section.
- Let the students review the questions after class as a daily homework assignment. You can set aside time at the start of each day to answer any questions they have regarding the prior day's questions. This may be the most feasible option given the tight time constraints that most classes work under.

It will be left up to each instructor to determine how they want to incorporate the KC questions into their class.

If you provide students with time to review the KC questions at the end of specific topics and at the end of each section, you should provide a couple of minutes per question, along with a few extra minutes per question to respond to student questions or challenges concerning certain questions they may not understand or whose answers they disagree with. This may add an extra 15 to 30 minutes to complete each section.

Labs

The labs must be completed within the lab environment provided by your lab hosting provider. Detailed, step-by-step instructions are provided for each lab and presented as part of the UI experience within your lab environment.

At the time the courses were released, the lab instruction had been thoroughly tested and the lab steps were 100% accurate. However, given the nature of Microsoft's cloud products and the fact that Microsoft releases UI updates on a regular basis, it's possible that at some point in time, the UI for a given feature may change so that it no longer matches the lab instruction.

If students encounter lab steps that don't accurately reflect the UI, they'll have to work through the UI to determine what needs to be done. Typically, UI changes are quite subtle, so hopefully you don't find yourself in a situation where a feature was completely overhauled.

However, if you do run into major UI changes, challenge your students to work through it, and only offer help if they definitely need it. Product UI changes will be part of their daily life in today's cloud-centric world. As IT/Pros, they must learn how to work through such situations.

One thing Microsoft does ask of you is that if you run into situations such as this where lab instructions no longer match the corresponding UI, please document the issue in the course's GitHub repository. This will help Microsoft's World-Wide Learning team update the lab instructions to keep them as up to date as possible. For information on how to submit an issue, please see GitHub User Guide for MCTs.

Demo and Lab Preparation

The labs for this course are provided in a hosted environment. Depending on the authorized lab hosting (ALH) partner you are working with, the environment may consist of a single lab profile / virtual machine containing *all* of the labs, a lab profile/virtual machine per *section*, or a lab profile / virtual machine per *lab*. There are no dependencies between labs.

The hosted lab environment includes an instance of SQL Server Express with a simplified version of the AdventureWorks sample database. Note that this is the same **AdventureWorksLT** database provided in Azure SQL Database if you choose to provision a sample database, so many (but not all) of the demos and labs can also be completed in Azure SQL Database using the Query Editor built into the Azure portal.

The lab environment also includes Azure Data Studio. You should familiarize yourself with this development environment before teaching the course.

In most hosting scenarios, the lab instructions will be included in the hosted VM interface. However, students can also access the lab instructions in HTML format at https://microsoftlearning.github.io/dp-080-Transact-SQL/. In addition to the lab instructions, this site (and the repo for the course) includes instructions for suggested demonstrations. There are no specific "Demo" topics or slides in the content, but rather you should make use of the provided demo code (or your own if you prefer) at appropriate points as you progress through the content.

Feedback

In this course, we have provided a framework for you to work with. Take time to prepare and think about the value that only an instructor can bring to training. We hope to partner with you to provide an exceptional student experience, and we welcome your feedback.