Video Course Outline

*Version Date: 2024-10-22 CJG*

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| **Course Information**  [Learn more about this section](https://authors.pluralsight.com/proposing-a-course-overview/#tasks) | |
| Course Title | Getting Started with SQL Server Administration |
| Author Name | Tim Warner |
| Opportunity ID | 3c104180-9ec1-40ea-8131-14c6edd679d1 |
| Skill Path | SQL Server Administration |
| Path Placement | 1 |
| Content Tags | Microsoft  IT Ops  Databases  Microsoft SQL Server |
| Length *Estimate in minutes* | 45 |
| Content Level *Novice, Entry-Level, Practitioner, Advanced, Expert* | Entry-Level |
| Notes | This foundational course introduces individuals to the SQL Server ecosystem, its underlying architecture, and the essential tools utilized for administration. It encompasses initial setup, connectivity, and fundamental interaction with the database engine. We are wanting to lean in heavy with teaching with demos and concise, to-the-point learning. *Using demos in teaching brings ideas to life and helps students understand better. Also please be sure to frame your lesson in real word examples using our* [*approved brands*](https://authors.pluralsight.com/course-assets/#brand-assets)*.* |

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| **Course Planning**  [Learn more about this section](https://authors.pluralsight.com/proposing-a-course-overview/#course-planning) | |
| Learner Profile *Who will be taking this course?* | This course is for IT professionals and developers who need to take ownership of Microsoft SQL Server in an enterprise environment. They may work in operations, infrastructure, helpdesk, or adjacent dev/data roles, and suddenly find themselves responsible for maintaining, querying, or troubleshooting a SQL Server instance.  Most learners are new to SQL Server administration specifically, but they likely bring experience with Windows-based infrastructure, scripting, or general database concepts. They're pressed for time, overloaded with responsibility, and want hands-on demos that show (not just tell) how to get up and running fast with the technology. |
| Learner Prerequisites *What do they already know?* | Learners should already be able to:   * Navigate Windows 10 or 11 confidently. * Use command-line tools like PowerShell or Command Prompt at a basic level. * Understand general database terms (tables, rows, columns). * Follow tutorials and install software with administrator privileges.   No SQL Server experience is required. Prior exposure to relational databases (e.g., MySQL, PostgreSQL, Oracle) is helpful but not assumed. |
| Storyline *Create a realistic story using a* [*PS Brand Asset*](https://authors.pluralsight.com/course-assets/#characters-2021) *and explain how the learner is going to solve it.* | You’ve just inherited the database stack at Globomantics, a rapidly growing robotics company with systems built on SQL Server. The original DBA is long gone. The exec team needs daily sales metrics, the developers are begging for access, and nobody knows how anything is configured.  Your job: take control of the situation, quickly learn how to connect to the system, inspect what’s running, and start managing it like a pro.  This course drops you directly into that admin seat. Step-by-step, you'll build real-world confidence using SQL Server Management Studio, Visual Studio Code with the MSSQL extension, T-SQL scripts, and PowerShell 7. |
| Platform/Tool Versions | |  |  |  | | --- | --- | --- | | Technology | Version(s) | Pre-release? (Y/N) | | SQL Server (Developer) | 2022 RTM or latest cumulative update | No | | SQL Server Management Studio (SSMS) | 20.x (latest stable) | No | | Visual Studio Code | Latest stable (August 2025) | No | | MSSQL Extension for VS Code | 1.18.0 or latest | No | | sqlcmd | Bundled with SSMS 20.x or latest CLI | No | | PowerShell | 7.x (Core) | No |   Note: Although SQL Server runs on Linux, macOS, and in Docker containers, we’ll stay primarily with Windows here to remain within the Microsoft technology stack as much as possible. That said, I will touch on how to do the work in the other environments at points throughout the training. |
| Short Description *250 character limit* | You’ve inherited a SQL Server instance and need to get your bearings fast. This course will teach you how to connect, explore, and confidently perform essential administrative tasks using real tools and real data. |
| Long Description *Introductory statement, general overview, 3 main learning points, what the learner will know by the end of the course.* | Many enterprise environments rely on SQL Server, yet new admins are often dropped into the deep end without proper guidance. In this course, Getting Started with SQL Server Administration, you’ll gain the ability to connect to and manage SQL Server using real tools in practical scenarios.  First, you’ll explore how to connect to SQL Server instances using SQL Server Management Studio and Visual Studio Code with the MSSQL extension.  Next, you’ll discover how to navigate server architecture, manage objects, and execute essential Transact-SQL (T-SQL) commands.  Finally, you’ll learn how to configure services, troubleshoot connectivity, and run admin scripts using PowerShell 7.  When you’re finished with this course, you’ll have the skills and confidence to begin administering SQL Server in an enterprise environment - whether on-prem, hybrid, or in the cloud. |

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| **Learning Objectives**  [What are objectives?](https://authors.pluralsight.com/proposing-a-course-overview/learning-objectives/) |
| **1. Connect to and Interact with SQL Server Instances.**  Establish successful connections to SQL Server instances using SQL Server Management Studio (SSMS) and Visual Studio with the MSSQL extension  Execute basic Transact-SQL (T-SQL) Data Definition Language (DDL) and Data Manipulation Language (DML) commands to interact with databases.  Navigate and manage database objects and server configurations using SSMS Object Explorer.  Utilize SQL Server Configuration Manager to manage SQL Server services and network protocols. |
| **2. Use Essential SQL Server Administration Tools.**  Navigate and manage database objects and server configurations effectively using SQL Server Management Studio (SSMS) Object Explorer and Query Editor.  Connect to and query SQL Server instances using Visual Studio Code with the MSSQL extension.  Configure SQL Server services and network protocols efficiently using SQL Server Configuration Manager.  Execute administrative commands and scripts using sqlcmd and basic PowerShell cmdlets for SQL Server. |
| **3. Understand Foundational SQL Server Architecture and Components.**  Explain the purpose and interaction of the SQL Server Database Engine, SQL Server Agent, and other key services.  Describe the fundamental architecture of databases, files, and transaction logs, including the concepts of pages and extents.  Differentiate between and identify the roles of SQL Server Analysis Services (SSAS), Integration Services (SSIS), and Reporting Services (SSRS) within a data platform.  Outline the basic principles of Transact-SQL (T-SQL) for administrative purposes, including fundamental Data Definition Language (DDL) and Data Manipulation Language (DML) operations. |

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| **Course Organization**  [Learn how to complete this section](https://authors.pluralsight.com/proposing-a-course-overview/#course-organization) | | |
| 1 | Connecting To and Exploring SQL Server Instances  Learning Objectives:  *Copy and paste verbatim from Learning Objective table above*  **1. Connect to and Interact with SQL Server Instances**  Establish successful connections to SQL Server instances using SQL Server Management Studio (SSMS) and Visual Studio Code with the MSSQL extension.  Execute basic Transact-SQL (T-SQL) Data Definition Language (DDL) and Data Manipulation Language (DML) commands to interact with databases.  Navigate and manage database objects and server configurations using SSMS Object Explorer.  Utilize SQL Server Configuration Manager to manage SQL Server services and network protocols.  Module Layout:  *Explain how you will be teaching the learning objectives and incorporating your storyline. List and describe any demos, learning activities or exercise files you will be using.*  Module Objectives:   * Connect to local and remote SQL Server instances using SQL Server Management Studio (SSMS) and Visual Studio Code with the MSSQL extension. * Use T-SQL commands to create databases, define tables, and insert, query, and modify data. * Explore and manage databases and server settings using SSMS Object Explorer. * Use SQL Server Configuration Manager to check and configure SQL Server services and network protocols.   Module Layout:   * Introduce the Globomantics scenario and the learner’s new SQL Server admin role. * Connect to SQL Server using:    + SQL Server Management Studio (SSMS)   + Visual Studio Code with the MSSQL extension * Use T-SQL in both SSMS and VS Code to:    + Create a new database and table   + Insert and query data using SELECT, INSERT, DELETE * Explore the SQL Server instance using SSMS Object Explorer:    + Navigate databases, security settings, and server objects * Open and use SQL Server Configuration Manager to:    + Verify that core services are running   + Check or enable TCP/IP connectivity * Recap tools used and reinforce hands-on takeaways   Estimated runtime: 15 minutes | 15 Min  *(10-40 min)* |
| 2 | Using Core SQL Server Administration Tools  Learning Objectives:  *Copy and paste verbatim from Learning Objective table above*  **2. Use Essential SQL Server Administration Tools**  Navigate and manage database objects and server configurations effectively using SQL Server Management Studio (SSMS) Object Explorer and Query Editor.  Connect to and query SQL Server instances using VS Code.  Configure SQL Server services and network protocols efficiently using SQL Server Configuration Manager.  Execute administrative commands and scripts using sqlcmd and basic PowerShell cmdlets for SQL Server.  Module Layout:  *Explain how you will be teaching the learning objectives and incorporating your storyline. List and describe any demos, learning activities or exercise files you will be using.*  Module Objectives:   * Navigate and manage database objects and server configurations using SQL Server Management Studio (SSMS) Object Explorer and Query Editor. * Connect to and query SQL Server instances using Visual Studio Code with the MSSQL extension. * Configure SQL Server services and network protocols using SQL Server Configuration Manager. * Use sqlcmd and PowerShell 7 to run administrative scripts and commands.   Module Layout:   * Tour the core toolchain for SQL Server administration:    + SSMS Object Explorer and Query Editor   + VS Code with MSSQL extension   + sqlcmd CLI   + PowerShell 7 * Use SSMS to:    + View, edit, and script out database objects   + Execute multi-line queries and highlight syntax features * Use Visual Studio Code to:    + Save and reuse .sql scripts   + Manage multiple connection profiles * Use sqlcmd to:    + Connect to an instance and execute T-SQL scripts   + Run scripts saved from SSMS or VS Code * Use PowerShell 7 to:    + Start and stop SQL services   + Query basic server metadata using Invoke-Sqlcmd * Reinforce when and why to choose each tool, including scripting vs GUI tasks * Recap: Real-world scenarios where each tool excels (e.g., remote access, automation, disaster recovery)   Estimated runtime: 15–18 minutes | 15 Min  *(10-40 min)* |
| 3 | Understanding SQL Server Architecture and Core Components  Learning Objectives:  *Copy and paste verbatim from Learning Objective table above*  **3. Understand Foundational SQL Server Architecture and Components.**  Explain the purpose and interaction of the SQL Server Database Engine, SQL Server Agent, and other key services.  Describe the fundamental architecture of databases, files, and transaction logs, including the concepts of pages and extents.  Differentiate between and identify the roles of SQL Server Analysis Services (SSAS), Integration Services (SSIS), and Reporting Services (SSRS) within a data platform.  Outline the basic principles of Transact-SQL (T-SQL) for administrative purposes, including fundamental Data Definition Language (DDL) and Data Manipulation Language (DML) operations.  Module Layout:  *Explain how you will be teaching the learning objectives and incorporating your storyline. List and describe any demos, learning activities or exercise files you will be using.*  Module Objectives:   * Explain the role of the SQL Server Database Engine, SQL Server Agent, and other key services. * Describe how databases, files, and transaction logs are structured—including the concepts of pages and extents. * Identify the functions of SSAS, SSIS, and SSRS in the broader SQL Server ecosystem. * Outline the foundational principles of T-SQL for administrative tasks using DDL and DML commands.   Module Layout:   * Introduce SQL Server’s core services and how they work together:    + Database Engine   + SQL Server Agent   + SQL Browser and SQL Server VSS Writer * Break down the internal structure of a SQL Server database:    + MDF/LDF files, filegroups, and logical vs physical storage   + Pages (8KB) and extents (64KB) explained with visual metaphors * Walk through T-SQL’s role in database administration:    + Contrast DDL vs DML (with code examples)   + Show how commands like CREATE, ALTER, INSERT, and DELETE map to admin tasks * Introduce SQL Server’s optional services:    + What SSAS, SSIS, and SSRS do—and when you’d care   + Emphasize they’re not required for core administration, but common in enterprise environments * Recap: Understand what you’re administering before you automate it   Estimated runtime: 12–15 minutes | 15 Min  *(10-40 min)* |