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Introduction

In November of 2019, I had just released my second book on SQL Server called *SQL Server 2019 Revealed* (my first book was *Pro SQL Server on Linux* which was released in 2018). It was only one week after we had also just launched the SQL Server 2019 release. I had also delivered some eight sessions at the recent PASS Summit conference in Seattle. Therefore, near the end of calendar 2019, I wanted to reflect back on what was successful but also look toward the future.

I found myself sitting in a room with my manager Asad Khan reviewing the work I had done over the last year and what might be the next focus for me (that is how we will roll at Microsoft; yes, we were celebrating the release of SQL Server 2019, but we are always looking at what is our next big thing). We agreed that for at least the foreseeable future I needed to focus on delivering the message of SQL Server 2019, Containers, Linux, and Kubernetes to customers and our internal teams.

I then asked a very dangerous question: “What about Azure?” Asad owns the program management for SQL Server and Azure SQL. He paused for a few seconds and then asked me, “Bob, what do you mean? Do you mean you want to get involved in Azure?” I had been thinking about this for some time. Back in the fall of 2019, I did a roadshow with Buck Woody and Anna Hoffman called “Ground to Cloud” (see the workshop for yourself at <https://github.com/microsoft/sqlworkshops/tree/master/SQLGroundToCloud>). During the roadshow, I was also thinking ahead despite the fact that I was still finishing the *SQL Server 2019 Revealed* book and part of our overall launch work for SQL Server 2019. So I told Asad, “I think one thing I can help with the cloud is to do an assessment of Azure SQL from the perspective of a SQL Server expert.” Why not take my 27+ years of experience on SQL Server and see how it lines up with the cloud? Asad in his usual calm demeanor said that he thought this would be an excellent idea, but I think he was privately excited to see my involvement.

Roll forward to early January of 2020. I had spent time over the holiday break in December of 2019 talking to my wife Ginger and my sons Troy and Ryan. “Should I go for a third book?” Ginger replied with her usual wry smile “Why not? Don’t you have a hang for this book writing thing now?” I thought it over for a bit and then decided to dive in. After all, 2020 marks the tenth anniversary of Azure and Azure SQL. I thought

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this introduction would include all the places I travelled while writing this book, as I had with my previous two books. However, there was a historic worldwide event you may have heard of called COVID-19 which disrupted not only my travel but has also affected so many people. I grieve and pay respects to all of those reading this book for themselves and any of their loved ones affected. The time not travelling did allow for me to have more focus to write this book, so I hope you like the final result. All of this book was written in my home office in North Richland Hills, Texas, but I was connected to the world throughout the writing.

This book is the culmination of work for an assessment of Azure SQL from the perspective of SQL Server. However, even if you don't know SQL Server, I believe you will gain much knowledge to learn Azure SQL. The book has many examples embedded into the text you can use, but you can also download code examples from my GitHub repository at <https://github.com/Microsoft/bobsql>.

The book starts out with a history of Azure and Azure SQL. I think understanding the history of something can help you gain knowledge of current capabilities and what is possible. I had fun writing the first chapter as it involved some fairly intensive research and interviews with some names you will find familiar.

I then will take time to explain what Azure SQL means. This is a great chapter to get started so you understand what is possible with Azure SQL cloud services, including the Azure ecosystem. This chapter will also help guide your decisions as you choose which Azure SQL option best fits your requirements. I recommend anyone reading this book to review this chapter.

One of the choices for Azure SQL is Azure Virtual Machine. Since the experience of Azure Virtual Machine (VM) inside the guest OS is very much like SQL Server on-premises, I chose to dedicate a single chapter to the subject instead of including Azure VM in the rest of the book. This chapter is great though if Azure VM is your target as I talk about deployment, networking, storage, and performance. The rest of the book covers Azure SQL Managed Instance and Azure SQL Database as Azure SQL.

One of the first things you do with SQL Server is install the software and configure it. Therefore, that is where your Azure SQL journey begins: learning the details and options to deploy and configure Azure SQL. I think you will find this is a fairly thorough discussion of the topic, because in some cases, making the right decisions during deployment will save you time and money. Even if you are familiar with the basics of deploying Azure, I recommend you review these chapters. You might find some interesting details you didn't know about.

The heart of the book then takes you on a journey to learn the core of Azure SQL, which are security, performance, and availability. Every customer I've talked to that has mastered SQL Server knows these three areas, and they represent the core of the SQL Server engine. Therefore, when you read these chapters, you will understand the capabilities and tasks of Azure SQL compared to SQL Server. These chapters are the largest in the book and contain the most examples.

You will finish the book learning "What else." There are some topics like Job Management that don't fit into security, performance, and availability, so you will round off your knowledge in the second to last chapter. One of the goals of this book is to get the SQL Server professional comfortable with Azure SQL. However, I want readers to end their journey with the book in the last chapter to see what is possible beyond the fundamentals because you are now in the world's computer, Azure.

This book is intended to help you get to Azure SQL, stay on Azure SQL, and use Azure SQL to its maximum potential. So gear up and start learning. Welcome to the world's database: Azure SQL.

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