

Azure Automation Using the ARM Model

An In-Depth Guide to Automation
with Azure Resource Manager



Shijimol Ambi Karthikeyan

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*Dedicated to my dearest Amma and Achan, my guardian angels
watching over me from heaven*

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About the Author



Shijimol A. K. currently works as a Partner Technical Consultant for Microsoft Partner Technical Services team. She has more than 11 years of experience in IT and specializes in datacenter management, virtualization, and cloud computing technologies. She started her career with EY IT services, on a datacenter management team managing complex virtualized production datacenters. She has expertise in managing VMware and Hyper-V virtualization stacks and Windows/Linux server technologies. She has also worked on DevOps CI/CD implementation projects using tools such as TeamCity, Jenkins, Git, TortoiseSVN, Mercurial, and Selenium. She later moved on to cloud computing and gained expertise in Windows Azure, focusing on Azure IaaS, Backup/DR, and Automation.

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Pranab Mazumdar is currently working as an embedded escalation engineer for Microsoft, focusing on Azure SQL Database (PaaS and IaaS) and Azure SQL Data Warehouse. He works closely with the engineering team to improve the service and make it a world-class stateful service, helping customers and partners be successful with their businesses. Prior to aligning to the cloud side of the business, he was an escalation engineer with the SQL Server team in CSS/GBS, where he worked with the product team to fix bugs in the SQL Server product, thereby making SQL a better and preferred RDBMS. He has been working with Microsoft for over 12 years, with specializations in SQL Server engine performance, high availability, and disaster recovery. He has worked with many large corporations on complex SQL deployments. Apart from SQL, he also has worked with Operational Insights, formerly known as System Center Advisor, migrating and helping create new sets of rules and validation processes. He holds several Microsoft certifications, including MCAD, MCSA, MCDBA, MSCE, MCTS, MCITP, and MCT; his most recent certification is Microsoft Certified Solutions Associate: Cloud Platform. He likes to be connected to his customers and has been a speaker at TechEd, GIDS, SQL Saturday, SQL Talks, and other community UG events. Recently, he coauthored *Pro SQL Server on Microsoft Azure* and was the technical reviewer of *Practical Azure Application Development*.

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Introduction

Microsoft Azure cloud adoption is on the rise, and Azure Automation plays a key role in building a sustainable and repeatable framework for creating and managing resources in Azure. This book will provide you an in-depth understanding of the options available in Azure Automation via the Azure Resource Manager (ARM) portal.

Microsoft recommends the ARM model as the way forward for all Azure deployments. This book focuses exclusively on the ARM deployment model for Azure Automation. This model has more robust options when compared to the classic deployment model.

This book provides in-depth coverage of topics such as runbook authoring and types of Automation runbooks. It also covers advanced topics including hybrid cloud automation from the ARM-based Azure portal.

Chapter 1, “Introduction to Azure Automation,” introduces Azure Automation, providing an overview of features and guidelines on getting started with the service in the ARM portal.

Chapter 2, “Azure Automation Assets,” explores the basic building blocks of runbooks, called *Automation assets*. These assets include schedules, modules, certificates, connections, variables, and credentials.

Chapter 3, “Azure Automation Runbook Types,” covers the various runbook types in Azure Automation: PowerShell, PowerShell Workflow, Graphical and Graphical PowerShell Workflow. This chapter gives a walk-through of runbook creation, testing, and publishing.

Chapter 4, “Azure Automation DSC,” covers integration of Azure Automation with PowerShell Desired State Configuration (DSC), including various cloud, on-premises, and hybrid scenarios.

Chapter 5, “Hybrid Cloud Automation,” covers the Hybrid Runbook Worker in Azure Automation, which facilitates execution of runbooks in your on-premises datacenters or systems hosted in third-party cloud service providers.

Chapter 6, “Sample Runbooks and Use Cases,” provides a walk-through of some popular use cases and their implementations using Azure Automation.

This book is written for infrastructure and cloud architects, cloud support engineers, system administrators, and IT strategists with a basic understanding of the Azure cloud platform and PowerShell scripting.