Microsoft Intune Administration

Learning Intune concepts and migrating endpoint devices from SCCM

Manish Bangia

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Dedicated to

My wife and lifeline:
Seema
and
two lovely kids: ***Divyansh*** *and* ***Yuvaan***

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About the Author

Manish Bangia has 20+ years of experience as an professional. He has expertise in various technologies such as Intune, Configuration Manager and other technologies related to Windows Device Management. Based on all his contributions to technical communities worldwide, he has been awarded by Microsoft as Most Valuable Professional (MVP). He is an avid blogger and youtuber, writing blogs and publishing videos related to technology.

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This book is dedicated to my lifeline and my wife Seema Bangia, without her great support this would not have been possible. Through her continuous support and encouragement, I was able to focus more on writing while she was focusing on daily task, taking care of the kids and doing my part of the work which supposedly I was responsible for. Her inspiration was the energy for me to get going.

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I am dedicating this book to my parents, my mother Kamal Bangia, who is no longer with me today but her memories stay forever. My father, Mahinder Kumar Bangia, whose challenges in his life has taught me: when the going gets tough, the tough gets going.

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Finally, I would like to thank all the readers who have taken an interest in my book and for their support in making it a reality. Your encouragement has been invaluable

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Preface

Writing a book, by keeping in mind about the readers expectation and understanding is not easy. The book can include thousands of pages with lots of information captured, but it will not be of any use if it is not helping the readers in a strategical way.

There can be so many challenges for various readers such as, a fresher who wants to start building their skill in Intune and device management technology, an existing IT person who is still working on on-premises infrastructure not ready for upskilling or scared of learning new technology, or an existing IT person who knows Intune little bit but does not understand the concepts clearly.

Keeping in mind the above scenarios, writing a book could be complex. Hence, the effort of this book is to start gradually, clearing the basics along with terminology. Then, moving forward with creating your own Intune account and integrating it with existing infrastructure. Readers who wants to learn just Intune as standalone or Intune in hybrid environment, both are going to get benefit with this book. The latter one is a bit complex topic, however, reader will be able to understand the concepts with each chapter as they progress with.

The book will then move forward with performing the day to day tasks for Intune administrator. They will also get exposure on architect level design decision along with best practices for Microsoft Intune. There are so many comparisons, pros and cons covered in the book for various topics which will give you clear picture of that specific feature.

Understanding Intune licensing along with other Microsoft 365 licensing can be daunting. The book will make this topic easier for understanding.

With this book, you will gain the knowledge and skills to become a proficient Intune Administrator and architect in the field of enterprise Enterprise mobilitiy. I hope you will find this book informative and helpful.

Chapter 1: Introduction to the Course – This covers the topic on what is required to begin with the Microsoft Intune course

Chapter 2: Fundamentals of Microsoft Intune – Explains the basic terminology related to Microsoft Intune and Cloud. Covers the topic what is Microsoft Intune, its history and evolution. It covers the topic on why we should use Intune and how it is different from Configuration Manager (SCCM). Furthermore, it includes the features and complexity of various environments including cloud-only, on-premises and hybrid infrastructure. It covers pros and cons of each infra. The chapter also includes the license you may need to choose for your organization.

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Chapter 3: Setting Up and Configuring Intune – Covers the topic on how to setup your Intune account including various other settings which makes the fully functional environment. It covers the topic such as enabling Microsoft Entra ID, creating users, assigning license to them. Finally ending with enrolling the first Windows 11 device to Intune.

Chapter 4: Device Enrollment Method – Explains what Intune enrollment means. It covers the topic on pre-requisites for enrolling the device. It also includes creating the CNAME record for enrollment and various windows enrollment methods. There are multiple enrollment types for device enrollment which includes enrolling via Company portal, Access work or school account, MDM only enrollment, Autopilot (user driven mode and self-deploying mode), Device enrollment manager, group policy, SCCM co-management and bulk enrollment.

Chapter 5: Preparing Infrastructure for On-premises Infra with SCCM – This chapter specifically focuses on how to prepare the infrastructure for hybrid environment. The environment which consists of Intune setup along with on-premises infrastructure is explained. All on-premises pre-requisites are covered explain Microsoft Entra ID connect configuration including Microsoft Entra hybrid join configuration. It also covers detailed setup on enrolling the devices via group policy and SCCM co-management.

Chapter 6: Co-management: Migration from SCCM to Intune – This chapter specifically focused Intune integration with Configuration Manager including migration strategy. This includes the detailed explanation of co-management capabilities. It further covers the topic on co-management, cloud attach feature where Intune can be integrated with Configuration Manager. Detailed explanation of workload is explained for co-management feature. Furthermore, chapter focuses heavily on strategy for the migration of various workloads from Configuration Manager to Intune in efficient way.

Chapter 7: Explore Device Management Features – Explains how Intune admin center and Microsoft Entra ID looks like to manage devices, users, licenses and others. The chapter focuses upon device properties and actions along with few other configuration related to Device enrollment settings.

Chapter 8: Configure Windows Update for Business – Explains how to deploy various updates via Intune which is known as Windows Update for Business (WUfB). There are various kinds of updates which can be deployed via Intune. It covers the topic on how WUfB is different from deploying the updates via SCCM/WSUS along with pros and cons for each. The chapter further explains various WUfB policies consisting of update ring, feature update, quality updates and driver updates.

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Chapter 9: Application Management – Explains how to deploy applications via Microsoft Intune. There are various types of applications which can be deployed via Microsoft Intune including Line-of-Business application, Win32 application, Microsoft 375 apps, store apps and others. Win32 app deployment requires Win32 content prep tool for the conversion of application to be uploaded. It covers the tips for deploying the applications.

Chapter 10: Configure Policies and Settings – Explains on how to deploy configuration policies to device. These policies are known as MDM policy which are different from group policy. The chapter explains how these two types of policies are different. MDM policy relies on Configuration Service Provider (CSP), hence detailed explanation of workflow is explained. It also consists of various types of configuration profiles to be deployed such as, administrative templates, settings catalog and custom OMA-URI. The chapter also covers resolving the conflict between MDM and group policy. It also includes migration of group policy to Intune using group policy analytics. Importing of ADMX templates and challenges with MDM policy is also covered. Finally ending with strategy for migrating GPO to Intune.

Chapter 11: Windows Autopilot – Explains how to provision the operating system via Windows Autopilot feature. The topic includes difference between task sequence and autopilot provisioning. Task sequence which is more of a legacy method to deploy operating via SCCM / MDT, while Autopilot is modern way of provisioning the operating system. Windows Autopilot topics are covered such as creating the hardware ID file, creation of deployment profile, setting up enrollment status page (ESP) and creation of dynamic group required for autopilot.

We will also cover Windows Autopilot device preparation which is also known as Autopilot v2. This is a new initiative by Microsoft which allows much faster provisioning of device without requiring upload of hardware hash.

Chapter 12: Device Management and Protection – Explains the device management techniques and how to protect them. The chapter covers the understanding of Role-based access control (RBAC) to provide appropriate access to the administrators. It also includes usage of filters and scope tags for the deployments. Furthermore, it covers scripts and remediations where both uses PowerShell scripts, however former one is used for one type execution while the latter one is used for remediation which runs on repeated interval set via specific frequency. It also includes the topic to protect the apps such as App protection policy, App configuration policy, policies for office apps and policy sets.

Chapter 13: Securing Device – The chapter heavily focuses on securing the devices within the organization. Endpoint security node under Microsoft Intune admin center provides various features to secure the device. Microsoft Defender is one of the feature which provides the mobile threat defense solution, this solution can be integrated with Intune. It

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has a separate console where we can make granular level settings to protect the devices. It covers the topic on how to encrypt the disk via BitLocker, configuration of Firewall policies. Endpoint privilege management feature is explained which allows standard users to to elevate the privileges. Other topics such as Windows LAPS, Compliance policies, conditional access polilcies and Windows Hell for Business is also covered.

Chapter 14: Reporting and Monitoring – Explains on how to check the assignment of policies and other settings via reporting / monitoring feature. There are certain inbuild reports and monitoring functionality available within Intune portal which allows the monitoring of the deployments. Windows Update for Business report is something which we need to configure which is a useful report to get patch compliance data and looking for failed devices. There are other topics covered through which we can get the data related to Intune via Microsoft Graph, PowerShell Module for Intune and Kusto Query Language (KQL).

Chapter 15: Endpoint Analytics – Explains what is Endpoint analytics and how it is useful for organizations to identify the issues related to hardware, policies or any other factor which might be contributing to slowness of the device. Detailed explanation of endpoint analytics with report is explained. This covers various metrics of endpoint analytics such as startup performance, application reliability and work from anywhere.

Chapter 16: Microsoft Intune Suite and Advance Settings – The chapter explains the advance features which are covered under Microsoft Intune suite. This is an add-on license which comes with various benefits. This covers the advanced endpoint analytics, endpoint privilege management, firmware-over-the-air update, Microsoft tunnel for mobile app management, remote help, management of specialty devices. The chapter also includes multi admin approval and windows autopatch feature.

Chapter 17: Troubleshooting – Explains the detailed troubleshooting methods required for Microsoft Intune. The chapter covers various techniques to collect MDM diagnostics which can be collected locally and remotely. It also explains the deciphering of log files to look for the correct information to troubleshoot the issue. It covers how to troubleshoot when policies are not applying correctly, application install issues, custom compliance policy issues, script issues and remediation issues. Furthermore, it covers the topic for various community tools which can be used to troubleshoot the various Intune issues. These community tools are created by Microsoft expert and one should always keep them handy to perform day to day activities. What each tool does and the way it can help to analyse the issue is covered in the chapter.

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Chapter 1
Introduction to the Course

Introduction

We are going to embark on the journey to learn Microsoft Intune, a cloud-based product to manage and secure devices. Before initiating the learning process, let us understand what will be required to begin the course.

Treat it like the ingredients required for the recipe. There are several ways you can prepare yourself for Intune. We can have various kinds of setup for Intune learning. The first one is easy to set up and the second one requires some additional effort. The kind of setups are as follows:

- Cloud only approach
- Hybrid approach

There are several benefits for each kind of approach which we will be discussing further.

Objectives

By the end of this chapter, you will be able to understand the basic requirement for beginning with this comprehensive course. This will not only give you clarity on how to setup, but also the correct path for you to follow whether you go only with the easy-to-understand cloud-only approach or choose the complex hybrid approach.

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Structure

The chapter covers following topics:

- Cloud only approach
    - Intune account
    - Microsoft Entra tenant
    - Virtual machine (Workgroup join with Windows 10 or Windows 11)
- Hybrid approach (on-premises + Cloud)
    - Active directory with domain controller
    - SCCM server
    - Virtual machine (domain joined)

Cloud only approach

Cloud only approach refers to cloud-based endpoint management solution without having any on-premises infrastructure. Here, management will be done just by Intune web-based portal and devices will be directly reporting to Microsoft Entra and Intune. There is no domain joined scenario, no group policies, no Configuration Manager / WSUS (Windows Server Update Services), and so on.

This is one of the best approaches to start with Intune learning process as this is fairly easy to understand. There is no complexity involved as there is no on-premises infrastructure and dependency upon it.

With this approach, you can set up your trial Intune account in a matter of minutes. It will be ready to deploy your first application in less than one hour. This approach is highly recommended if you are a novice or want to avoid the complex process of learning the technology. This process only requires you to have Intune account setup done and at least one device, such as a laptop/desktop or preferably a Virtual Machine.

Intune account

We need to set up an Intune account. For that, we are going to use the Trial version and within no time, we will have an Intune account ready to be explored.

Microsoft Entra tenant

We also need the Microsoft Entra tenant, previously known as **Azure AD tenant**, to begin our cloud journey with Intune. The good news is, this gets automatically configured while setting up the Intune account. Intune cannot work without Microsoft Entra ID as they are tightly integrated. Intune is integrated with Microsoft Entra ID, in backend it uses users, groups and devices which are part of Microsoft Entra ID to manage these identities via Intune. Microsoft Entra ID has a portal different from Intune. However, some objects such

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