

MANAGER'S GUIDE TO SHAREPOINT SERVER 2016

TUTORIALS, SOLUTIONS, AND
BEST PRACTICES

Heiko Angermann

Apress®

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Introduction

Over the last few decades, it has become an ever-increasing task to manage the mountains of structured and unstructured data required to run today's businesses. Content management systems (CMS) are the tools of choice to help businesses get their content under control. However, as firms have different claims on CMS, depending on the type of information the firm has to deal with, the type of use, and the type of provision, different available CMS are available that usually focus more or less on different tasks. For example, some CMS focus on managing and publishing content for the web, known as web content management systems (WCMS). Other systems, known as document management systems (DMS), are not concerned with publishing on the web but are specialized for structuring paper-based content within an intranet, and other CMS focus on administrating digital non-paper-based documents, known as digital asset management systems (DAMS). Other CMS, referred to as electronic records management systems (ERMS), manage business records. And, in addition, CMS exist that focus on all the previously mentioned tasks within a single system, known as enterprise content management systems (ECMS). Such systems do not follow a single methodology or idea but have the ability to support enterprises in a holistic manner, namely as a system to depict the strategic and dynamic process inside enterprises.

The CMS Microsoft SharePoint Server (usually abbreviated as SharePoint) focused, with its first releases in 2001 and 2003, on managing documents inside a collaborative environment. However, since the release in 2007, it became a true ECMS, with permanent development and improvements coming with the subsequent releases in 2010, 2013, and 2016. Despite these, however, at the management level, the opportunities as well as limits of SharePoint are often unknown, as a concrete use case of the available features and functionalities

is missing. In addition, daily users with or without computer affinity are often overwhelmed by the complexity of this all-around solution, as the palette of functionalities and possibilities is too extensive. For example, the provided site collection templates include overlapping functionalities that make the right choice challenging. The same holds true for the different site collection templates included with applications. In addition, the customizing of SharePoint is often error-prone and time-consuming, as the inheritance of diverse settings is unknown, or the activation of settings that are required to allow customization is missing. In the end, this leads to dissatisfaction and, in the worst case, results in a rejection of the system on two fronts. First, managers who have decided to use SharePoint reject the system, as they do not see its benefits. Second, end users who must employ the system daily are dissatisfied, as the ECMS does not simplify their jobs if the possibilities and limits are unknown, or the system is not in a shape to effectively support daily tasks.

To overcome these challenges, this book provides a hands-on introduction to this leading ECMS. As such, it explains SharePoint—more precisely, its most recent release, Microsoft SharePoint Server 2016—from the perspective of how it can concretely help enterprises in specific, but also general, use cases. In addition, it details, with more focus on management and strategic development, how to impart the possibilities of SharePoint to users, instead of focusing on users with programming skills, as provided in the very comprehensive books introduced by Tony Smith¹ and Olga M. Londer.² With the help of understandable tutorials, best practices, and solutions, this book provides transparency regarding what is available but, in turn, the most fitting technologies for a specific business goal, such as managing content for the web, structuring documents, administrating records, and managing assets. Moreover, the different chapters include guidelines for overlapping tasks, such as project management, improving collaboration, managing metadata, access level, etc. With this in mind, the book focuses on four types of practitioners and scholars across domains, as follows:

- **Managers/Consultants**, who decide which CMS will be used to increase the manageability of content in small, medium, and large enterprises. After reading this book, managers and consultants will be able to understand how and where SharePoint can help improve companies' success.

¹Tony Smith, *SharePoint 2016 Users' Guide: Learning Microsoft's Business Collaboration Platform* (New York: Apress, 2017); Penelope Coventry, <http://www.apress.com/de/book/9781484222430>.

²Olga Londer, *Microsoft SharePoint 2016 Step by Step* (Redmond, WA: Microsoft Press, 2016) <https://www.microsoftpressstore.com/store/microsoft-sharepoint-2016-step-by-step-9780735697768>.

- **Final users**, who use SharePoint for daily business, e.g., users who work together on projects or those who are responsible for editing content. With the help of this book, users of SharePoint will be able to better understand what to do within SharePoint and how to more effectively deal with this ECMS.
- **Site administrators**, who are responsible to customize SharePoint to improve usability and user experience. This type of audience will be able to understand the core elements and applications inside and outside SharePoint used for customizing, and how to improve the sites' functionalities, as well as functionalities of the included applications, libraries, pages, web/template parts, etc.
- **Scholars/Students**, who teach or study the basics of CMS in undergraduate and postgraduate courses with a focus on applied science. Teachers will be able to better explain the use of SharePoint as a collaboration and management platform and, consequently, students will be able to more quickly understand what a CMS provides.

The remainder of the book is organized as follows. In this chapter, an introduction to CMS is given. The scope of CMS is detailed and the differences between the various types of CMS are explained. This includes the differences from a functional perspective (DMS, WCMS, DAMS, ERMS, and ECMS) but also from a license perspective (proprietary vs. open source), as well as from an operative perspective (on-premise vs. cloud computing). The second chapter elaborates ECMS SharePoint by giving details about its basic technology and the features and ideas of the provided templates (site collection, applications). Hands-on tutorials are presented in the third chapter, in which the underlying technology and templates to be used are covered in detail. These tutorials are divided into different use cases having different level of complexity. Through this, use cases for end users, but also use cases for site or site collection administrators are included. Best practice scenarios are presented in the fourth chapter. These include case studies, governance, and tools to improve the usability, manageability, and the look and feel of SharePoint. Solutions for the hands-on tutorials are presented in the fifth chapter. In the sixth chapter, the book finally concludes.

SharePoint Technology

Microsoft SharePoint Server, often referred to simply as SharePoint, is the enterprise content management system (ECMS) developed and distributed by the Microsoft Corporation (www.microsoft.com). SharePoint combines capabilities to manage content intended to be published on web sites, features to effectively manage paper-based documents, technologies to administrate electronic records, and functionalities to manage digital assets, all inside one uniform system. The latest release of SharePoint was in 2016, named Microsoft SharePoint Server 2016 or, in short, SharePoint 2016.¹ From the introduction of SharePoint in 2001, SharePoint 2016 represents the fifth successive release of the product. With each release, Microsoft has substantially improved the platform, by picking up the most influential trends in information technology and constantly implementing those trends within SharePoint. Therefore, SharePoint focuses not only on functional trends, such as integrating social media features, but also on technical trends, such as providing SharePoint as a cloud computing service instead of one available only on-premise, or improving the graphical user interface (GUI) by providing more branding features.

¹Seth Patton, "SharePoint 2016 RTM and the Future of SharePoint Event," Microsoft Office Blogs, <https://blogs.office.com/2016/03/14/sharepoint-2016-rtm-and-the-future-of-sharepoint-event/>, March 14, 2016.

The first release of Microsoft SharePoint in 2001 was named Microsoft SharePoint Portal Server, or, in short, SharePoint 2001.² SharePoint 2001 provided a pure platform to manage paper-based documents, i.e., a document management system (DMS), which was supported through minimal collaboration features. The strategy was to provide a portal solution to enterprises, instead of having isolated applications on personal computers and ultimately storing the documents inside file directories, which do not support automatic versioning and annotating, check-in/check-out, automatic tagging, and audit trail. The next release, named Microsoft Office SharePoint Portal Server 2003, had the same focus, but the range of features was supplemented by the My Site technology. The My Site technology was strongly inspired by the emergence of Web 2.0 and social media platforms like Myspace. With this, the My Site feature greatly improved the collaboration capabilities of SharePoint 2003, by providing techniques to improve social interaction between users, for example, by giving each user the opportunity to create his/her own social profile, and by giving them the possibility to follow other users, etc. The biggest improvement in SharePoint was achieved with the release in 2007 of Microsoft Office SharePoint Server 2007. This was during the era when SharePoint became a comprehensive IT platform and, finally, a complete ECMS. In contrast to the releases in 2001 and 2003, comprehensive techniques are now integrated to create individual web sites, as provided by WCMS. In addition, techniques are integrated to focus also on the management of non-paper-based documents, and techniques to effectively administrate business records have been provided. In addition, and based on the afore mentioned improvements, an updated search center was included, as were business processes and forms and techniques to support business intelligence (BI). In the following release, introduced in 2010, SharePoint supported multi-browsing (platform and device-independent browsing), My Site was improved, and a new user interface provided better usability. The new improvements were based on the emergence of cross-media and the success of new social media platforms like Facebook and Twitter. This version was named Microsoft SharePoint Server 2010. The release introduced in 2013, named Microsoft SharePoint Server 2013, again featured improvements to increase usability. From a user perspective, the main improvements were to the user interface, the support of drag and drop, and the ability to now follow and share documents, sites, persons, etc. With the most recent release, Microsoft SharePoint Server 2016, the focus is on the architecture of SharePoint and the underlying provision model. Now, SharePoint is not only available on-premise but also in the cloud. This version is available as a standalone enterprise content management system and also as an Office 365 application.

²John P., "Introducing the SharePoint 2016 Readiness Guide: What's New in SharePoint 2016?" AvePoint Blog, www.avepoint.com/blog/avepoint-blog/introducing-sharepoint-2016-readiness-guide-whats-new-sharepoint-2016/, January 13, 2016.

The aim of this chapter is to discuss the underlying technologies of the most recent release of SharePoint theoretically, but also to consider the possibilities and limitations of SharePoint 2016. The first section of this chapter begins by detailing the technology of SharePoint. This includes a discussion of the applications provided, the user interface, and the My Site technology. In the subsequent section, the available templates in SharePoint will be covered. This includes a discussion of which types of templates exist, how these are different, and for which scenario is which template most suitable.

SharePoint Technology

Since the third release of SharePoint in 2007, it has been an ECMS. With each release of SharePoint, new techniques have been implemented, and the existing functionalities constantly improved. To do this, Microsoft considers the trends in the IT sector and transfers those into its ECMS. Because of the constant improvement, SharePoint is one of the most comprehensive ECMS, according to the related market research reports published by the research institutions Gartner Inc. and Forrester Research Inc. This section presents the underlying technologies of SharePoint. It includes a discussion of the basic elements of SharePoint, one about the technology of SharePoint, an explanation of My Site, and, finally, an explanation of the different administration levels.

Basic Elements

In contrast to other ECMS, SharePoint does not illustrate its ECMS capabilities as recommended by the Association for Image and Information Management (AIIM) but inside an autarchy model, called the SharePoint Wheel. With the improvements of the last five releases, the wheel has correspondingly changed, as illustrated in Table 2-1. The recent release, Microsoft SharePoint Server 2016, combines six core capabilities inside the wheel:³

- **Sites** provides templates to manage the different types of content, as well as the users themselves. Different templates exist to improve collaboration, enterprise tasks, and publishing. In addition, high granular rights management is provided, and an individual site for each user (My Site).

³Himanshu Sharma, "Three Types of SharePoint Customers, Which Type Are You?," Trigent Blog, <https://blog.trigent.com/three-types-of-sharepoint-customers-which-type-are-you/>, June 1, 2014, accessed March 19, 2017.

Hands-On Tutorials

This chapter offers practical experience of the core capabilities of the SharePoint enterprise content management system. It includes various tutorials concerning the main technologies of SharePoint, on the one hand, and the most-widely used techniques required in most use cases, on the other. The aim of the tutorials is mainly to increase the learning process, not only about the technologies covered in the second chapter, but also to prepare readers for the best practices presented in the fourth chapter. The tutorials presented in this chapter are all based on real-world requirements. Thus, a fictitious firm is featured that is nonetheless quite similar to one in the real-world. The fictive firm is based on a software service provider located in Germany that has almost 25 members. Of course, the firm has different departments as well as different roles. This allows simulation of the most widely applied functionalities available with SharePoint.

The focus of the tutorials is principally on seven main SharePoint capabilities, which translate into seven tutorials. Each successive tutorial increases in complexity, and each includes exercises that must be performed by the reader (user). Again, the complexity of the exercises increases with each exercise. All the tutorials and included exercises are aimed at readers who have little or no experience with SharePoint. Because of this, the focus of the tutorials is on readers who have never customized

a SharePoint site before. Depending on the complexity of the exercise, greater or less detailed explanations are provided. After completing all the tutorials and exercises, the reader will be able to understand the core SharePoint responsibilities. Of course, the reader will not be able to perform all tasks as performed by a site or site collection administrator, who is typically responsible for customizing a site. However, the reader will get an idea of what an administrator has to do to improve the usability of the application according to an enterprise's needs. In addition, she/he will experience a methodical progress, meaning that the reader will be able to imagine how SharePoint works and how it can help improve a firm's chances of success through its core capabilities. Through this, the reader will acquire an idea for which types of her/his business tasks she/he could use which type of SharePoint technology. In the end, the focuses of the tutorials are as follows:

- **Permissions** are discussed to experience SharePoint's possibilities for managing different users with different roles inside the firm. As such, tutorials including exercises to treat permissions are required for the later tutorials, because they treat the different permission levels available in SharePoint and the different user groups required to assume different roles across an enterprise.
- **My Site** is discussed so that readers can experience SharePoint's possibilities for improving social networking. Readers will be able to better understand what My Site is and how it can be used to improve communication between staff, to more quickly share information with others, and have a place for each user to collect news, discuss topics, etc.
- **Look and Feel** is elaborated, so that the readers will experience how they can quickly adapt the SharePoint site according to the needs of their firms. This includes techniques to use the already existing themes, to change information about the site, as well as techniques to integrate personal styles into the SharePoint site.
- **Applications** is discussed, because it will help readers to better distinguish between the different types of applications and to determine when to use one of these types. In addition, readers will experience which possibilities exist, to extend, and also to customize the lists and libraries created.
- **Enterprise Metadata** and **Managed Metadata** tutorials will help the readers experience how they can integrate metadata techniques into SharePoint

applications. In addition, readers will consider how both techniques differ and, of course, which benefits both types of metadata technologies have in real-world scenarios.

- **Search Center** is discussed, as finding the desired information quickly is a crucial factor in our digital age, the tutorials presented on this subject focus on integrating a search center template into SharePoint. In addition, different techniques are discussed to customize the SharePoint Search Center according to the needs of a specific firm.
- **Tasks** are the scope of another type of tutorial presented. These tutorials focus on how to quickly set up one's own project workspace. This includes exercises to create new task items in SharePoint and how to nest different tasks as subtasks. In addition, exercises are included to assign tasks to different users and to administrate the project time line.

The remainder of this chapter is organized as follows. The first section starts by detailing the fictitious firm. In the second section, the technical preparations to be able to perform the tutorials are explained. In the third section, seven tutorials are presented. The tutorials explore how to manage different types of users inside SharePoint, how to improve social networking using SharePoint, how to customize the SharePoint look and feel, how to use and customize SharePoint applications, how to integrate enterprise and managed metadata technologies, how to set up and adapt the SharePoint search center, and how to administrate and manage tasks of projects.

Tutorials Methodology and Preparation

The tutorials presented in the next section, are based on a fictitious firm called ShoptiExperts, a software service provider located in Germany. We'll assume that ShoptiExperts was founded in 2005 and has a staff of 20. In addition, let's assume that two external partners exist, who are mainly provided to highlight strategic questions.

The main goal of ShoptiExperts is to implement and optimize e-commerce solutions in a B2B (business-to-business) context. The focus of the firm is on front-end design and modules to be used in the e-commerce system, named Shophouse.¹ Because ShoptiExperts wants to improve internal processes, the company has decided to use SharePoint. In the section at hand, the firm is presented in detail, that is, the expectations the company has of its systems are explained. In addition, the preparations required to perform the tutorials are also explained.

¹Fictitious e-commerce system.

Best Practice Scenarios

The functionalities of SharePoint are extensive, as it is a leading enterprise content management system and, as such, handles different aspects of content management within one application. Because the functionalities of SharePoint are extensive and are supplemented by a huge number of users with different knowledge and familiarity who use the application more or less frequently, it is absolutely necessary to define how the application should be used in general and to define how the underlying workplaces are differentiated from one another. Both aspects avoid uncontrolled and unregulated use of the application, which would, of course, lead to negative aspects, such as user dissatisfaction and uncontrolled growth. To avoid these, rules governing how to manage and administrate the application must be set up before use. In addition, a mechanism that constantly and frequently scrutinizes the initial setup rules and adjusts those, according to the feedback of the users or in cases of anomalies, must be supported. However, understanding which issues should be part of such rules, and how the mechanism to achieve and implement adjustments must be made manifest, is not straightforward, because of two principal barriers.

The first barrier exists because it is crucial to understanding the purpose and elements of such rules and mechanisms in detail. Often, rules are set up that do not cover all aspects: existing rules overlap or the mechanism to constantly scrutinize them disappears after a while. The second barrier exists because the aim of the SharePoint templates, including the underlying technologies, must be interpreted correctly with regard to the use cases to be considered.

Often, users employ the provided functionalities in an impetuous manner. This is because they do not consider the global impacts of using a specific technique but focus instead on the quickest solution at a particular moment. This chapter is presented to help users scale both barriers and to ultimately avoid user dissatisfaction, uncontrolled growth of an application, and the wrong utilization of SharePoint techniques. The solution to the first barrier is covered by explaining best practices with regard to the methodology of a so-called governance model. Such a model defines the rules to be set up and gives advice about control and adjustment of the rules. Giving best practices regarding the use of the different types of SharePoint templates lifts the second barrier. How the most widely used templates are utilized to support the different use cases is discussed in detail, to that end. In addition to an explanation of how to control the usage and differentiate between particular techniques, various additional tools allowing for improved manageability of the web application, customization of the web application, standardization and automation, usability and integration of data being provided outside SharePoint, and structuring a huge amount of data using metadata techniques are explained in this chapter.

The remainder of this chapter is organized as follows. The first section begins by discussing various governance best practice models. These include an explanation of how to set up a governance committee and, of course, the associated governance plan. Afterward, best practices regarding the final use of the different types of site collection and site templates are given in the second section. In the third section, tools to more effectively manage a SharePoint web application are discussed, including the underlying SharePoint site-collections, sites, and pages. This includes a discussion about tools provided directly by Microsoft to manage and customize the SharePoint web application. In addition, tools presented by third party solution providers, which extensively expand the SharePoint out of the box functionalities regarding the most important aspects, are presented. These regard the integration and usage of more complex workflows, the effective connection of SharePoint with external data sources, as well as a more effective use and integration of metadata techniques. The chapter concludes with this section.

Best Practices Governance Model

A governance model refers to roles and processes inside an enterprise that serve as a guideline for fulfilling, sustaining, and extending the IT planning.¹ Such a model is important to define and control how users of your SharePoint environment will employ the site(s). The benefits, in detail, as well as the elements of the model are explained in this section.

¹Techopedia, "Governance Plan," www.techopedia.com/definition/2910/governance-plan, accessed May 30, 2017.

Hands-On Solutions

To experience the core capabilities of the SharePoint 2016 enterprise content management system practically, seven tutorials were presented in the third chapter. Specifically, tutorials were included to offer readers hands-on experience with SharePoint's different functionalities for the following: managing users' different levels of access to the web application; improving social networking in firms by creating social profiles and by using social features; more or less complicated customizing of the look and feel of the application being shown to users; integrating different types of applications, including customizing those for effective management using workflows; utilizing different types of metadata techniques to help find and structure heterogeneous information (content, documents, data); and, finally, managing and administering different types of tasks occurring in projects and teams. With the help of the tutorials, readers gained practical experience of which areas are most important for managing enterprises' content and how those areas can be covered using Microsoft SharePoint Server 2016. To help readers better translate them into a real-world environment, the tutorials were based on a fictitious firm, albeit with very real-world features.

In this chapter, solutions to the tutorials in chapter 3 are discussed in detail. Different use cases for each tutorial presented in chapter 3 are considered, including a number of exercises. This has been done to differentiate methodologically between the different existing core techniques. The solutions are presented using the same convention of not obscuring the overview and to quickly find the answers required. Because of this, each solution again includes

several use cases. In turn, each use case includes several exercises. Logically, the solutions to the tutorials and the exercises increase in complexity. However, different from the tutorials in chapter 3, each exercise is presented in detail, regardless of its complexity. By having performed the tutorials in chapter 3, this chapter can be used as a learning control or answer key, if the reader has not performed all the exercises. After doing the tutorials, and by using this chapter, readers will understand SharePoint's main capabilities, regardless of their expertise.

The remainder of this chapter is organized as follows. The first section starts by detailing how the solutions are presented. In the second section, solutions to the seven tutorials are presented. Of course, these include solutions for the use cases and exercises included in each tutorial.

Solutions Methodology and Preparation

The solutions presented aim to help understand the main technologies of SharePoint, based on those presented in chapter 3. This means that for the tutorials, which include different use cases, a step-by-step explanation is given, including how to perform and operate various techniques. In total, solutions are presented for seven areas of SharePoint 2016, covering most of the most important areas and tasks supported and covered by SharePoint: user management, improving social networking, customization of the look and feel, integration of applications, using metadata techniques, improving search experience, and managing tasks.

All the tutorials presented in chapter 3 are based on a fictional firm named ShoptiExperts. The main objective of ShoptiExperts is to implement and optimize e-commerce solutions in a B2B (business-to-business) context.¹ The focus of ShoptiExperts is on front-end design and the Shophouse modules used by the e-commerce system. Because ShoptiExperts wants to improve its internal processes, the company decided to use SharePoint. All the tutorials and, likewise, all the solutions, are based on real-world requirements to improve companies' efficiency in or by the seven areas and tasks previously mentioned. In this section, the general characteristics of the firm are outlined. These include the expectations the company has of its systems and the preparations required to implement them.

Solutions Methodology (Fictional Firm)

ShoptiExperts has 22 staff members. The different staff is organized according to different roles. Of course, the staff also is organized hierarchically in formal departments. For more details about the firm, including departments and staff, see chapter 3.

¹Fictitious e-commerce system.

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