

THE EXPERT'S VOICE® IN SHAREPOINT

Visio Services Quick Guide



*USING VISIO WITH SHAREPOINT 2013
AND OFFICE 365*

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For your convenience Apress has placed some of the front matter material after the index. Please use the Bookmarks and Contents at a Glance links to access them.



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CHAPTER 1



Introduction and Background

You've probably heard that a picture is worth 1,000 words, and also that actions speak louder than words. If you put those two axioms together, you get the idea of Visio. It is often far easier to understand and simpler to explain a concept, a theory, or even a story by presenting actions visually in blocks and diagrams rather than words. Visio is a very powerful vector graphic tool you can use for exactly that, and Visio Services lets you bring your Visio diagrams to life. In this chapter, we'll have a brief background on Visio, and what Visio Services can do.

First, let's take a quick look at what we'll cover in the rest of this book.

What Will You Learn?

This book introduces you to Visio Services and discusses using Visio with SharePoint 2013. If you're familiar with Visio 2010, a few concepts might be redundant. You might want to either skip them or flick through them quickly, or, for a quick overview of what's new in Visio Services 2013, see the Appendix.

By the end of this book, you'll learn about:

- The essentials of Visio Services
- Setting up Visio Services on SharePoint 2013
- Publishing a basic Visio diagram to SharePoint
- Connecting a Visio diagram to:
 - A SharePoint List
 - SQL Server with and without Secure Store Services
 - Data using a custom data provider (using Visual Studio and WCF)
 - Workflows and Visio with SharePoint Designer 2013
- Management of Visio Services using Central Administration (CA)
- Management of Visio Services using Windows PowerShell
- What's new in Visio Services in SharePoint 2013 (see Appendix)

Prerequisites

To be able to use this book successfully, you'll need the following software:

- SharePoint Server 2013 Enterprise Edition
- SQL Server 2008 R2 / SQL Server 2008 / SQL Server 2012 (x86 or x64)
- Visio Client—2013 Professional or 2010 Professional or 2010 Ultimate
- SharePoint Designer 2013, available for download at <http://www.microsoft.com/en-us/download/details.aspx?id=35491>
- Visual Studio 2012 or 2013 Professional Edition, trial version available for download at <http://www.visualstudio.com/downloads/download-visual-studio-vs>
- If you'd prefer using the Express editions of Visual Studio and SQL Server, you can download them from www.microsoft.com/express/

Why Visio?

Let me walk you through a small story called “My day begins with . . . I wake up early in the morning, get ready, and start from home at about 7:15AM. On my way driving to the office, I stop by the nearest coffee shop to pick up my morning beverage. I choose hot chocolate and head for the office—yet another decision to make, whether or not take the freeway. I quickly look over my shoulder and as there's not a lot of traffic, I choose to drive on local streets. At 8:45AM, I arrive at the office.

Notice the words in my little story. It's all about initiation, actions, decisions, and concluding. Well, of course these four elements and maybe a few others are required to run our lives and, in fact, any job, too. Simply put, if I want to tell my story in the form of diagram or a flow chart, it becomes a sort of storyboard—a logical sequence of boxes connected together, as shown in Figure 1-1.

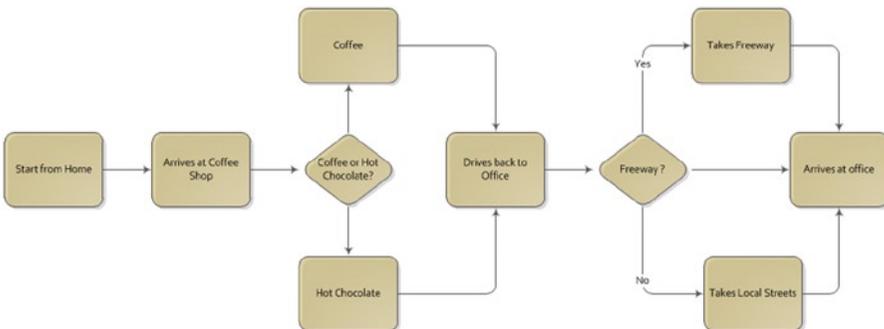


Figure 1-1. “My day begins with . . .” storyboard

With Visio you can create a wide range of diagrams easily with the help of inbuilt shapes, stencils, and templates. The diagram scope can encompass the simple, like my storyboard, or the complex, like the network representation of an entire organizational infrastructure. It can target various audiences, from business analyst to a developer to a solutions architect. A construction engineer or an interior designer can create a floor plan. An electrical engineer can create a basic electrical circuit or a logic diagram. There are endless possibilities using Visio; you just need to focus your imagination on the available templates to create your own diagrams.

Why Visio Services?

Now, what if your Visio diagrams could come to life? What if you could power these diagrams with data and share them with your colleagues?

Let me give you a real-time example. As an architect in the organization where I work, I'm often asked to give introductory sessions to many people on the project team, and I typically use a Visio diagram to explain the project details. Whenever there are enhancements, updates, or changes to the project, I have to redo my Visio diagram and present it to the team.

Instead of calling for another meeting, I could update and e-mail a new version of the Visio diagram and get final approval. But not everyone has Visio installed. Moreover, where does this information end up? E-mails! Or maybe in yet another set of printed documents that will just collect dust on the shelf. What's missing here?

1. Collaboration
2. Easy viewing. For a Visio diagram you need either the Visio client and related licenses, or at least a Visio viewer (there's a free viewer available at <http://www.microsoft.com/en-us/download/details.aspx?id=35811>)
3. Instant update of the diagrams
4. Data connectivity

You've all probably thought at some point, wouldn't it be great to be able to share a Visio diagram that's connected to data, in which the diagram updates automatically when the data changes? And wouldn't it be wonderful to be able to have end users view the diagram in their browsers, without having to install the actual Visio client?

Well, those scenarios are possible. With Visio Services in SharePoint 2013, you can publish Visio diagrams to SharePoint, drive them with real-time data, and share them easily without installing Visio client—all of this by using Visio Services in SharePoint 2013.

Visio Services was introduced in the previous version of SharePoint (2010) as a SharePoint Server service application. These services are available as part of the Enterprise Client Access License (CAL) and they provide a platform where users can share the Visio diagrams using the SharePoint infrastructure. Visio Services provide various data connectivity models to drive Visio diagrams with data, both real-time and historic. Most of the features discussed in this book apply to both on-premises and in the cloud—Office 365 SharePoint Online. Unless otherwise mentioned, the examples discussed will work on both platforms.

Summary

In this introduction chapter, you have seen what you will be learning in this book and why you need Visio, as well as the benefits of Visio Services.

What's Next?

In the next chapter, you will learn about configuring Visio Services, and understanding its architecture and features.

CHAPTER 2



Presenting Visio Services

This chapter will get you set up with Visio Services on SharePoint 2013. We'll also look at the features available and take a look at the underlying architecture.

Setting up Visio Services

Setting up Visio Services is quite simple, requiring just few basic steps. Before beginning, however, ensure that you have Farm Administrator privileges.

There are two approaches. In the first, in SharePoint 2013, simply go to Central Administration ► Configuration Wizards and launch the Farm Configuration wizard, as shown in Figure 2-1.

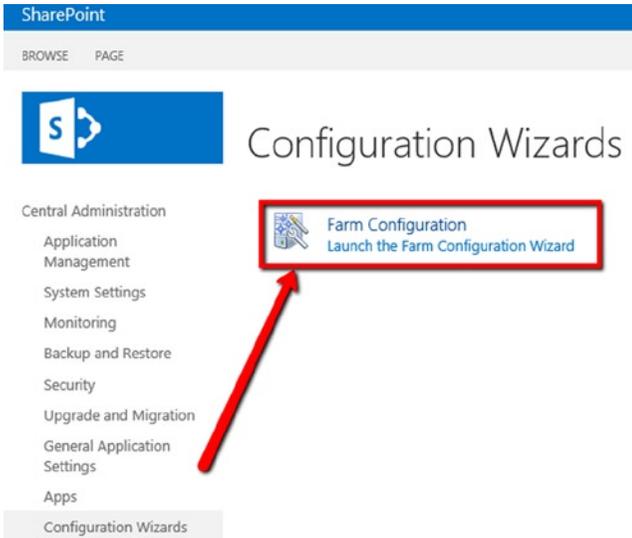


Figure 2-1. Launching the Farm Configuration wizard

■ **Tip** If you are installing SharePoint for the first time, you'll be prompted to run this step toward the end of the installation. If you prefer, you can just skip it for now and run it later.

In the subsequent screen, you are prompted to 'Start the Wizard,' as shown in Figure 2-2.

How do you want to configure your SharePoint farm?

This wizard will help with the initial configuration of your SharePoint farm. You can select the services to use in this farm and create your first site.

You can launch this wizard again from the Configuration Wizards page in the Central Administration site.

Yes, walk me through the configuration of my farm using this wizard.

Start the Wizard

No, I will configure everything myself.

Cancel

Figure 2-2. Choosing to configure the farm using the wizard

To set up the services, you need to have a service account and choose required services from the wizard (Figure 2-3). Be sure you have Visio Graphics Service checked. If this is a fresh installation, this option will be enabled.

User Profile Service Application

Adds support for My Sites, Profiles pages, Social Tagging and other social computing features. Some of the features offered by this service require Search Service Application and Managed Metadata Services to be provisioned.

[Learn about security implications related to this option](#)

Visio Graphics Service

Enables viewing and refreshing of Visio Web Drawings.

Word Automation Services

Provides a framework for performing automated document conversions.

Work Management Service Application

This service provides task aggregation across work management systems.

Workflow Service Application

Figure 2-3. Select the desired services using the Farm Configuration wizard

Click Next. SharePoint will provision all services selected in this step, and prompts to create a new site collection with the selected services. You cannot choose a service that's already installed because it will be disabled, as shown in Figure 2-3.

■ **Note** With this default mode and the service application already available to the default web application, you can now create a site collection using one of the available templates.

This approach is very direct. Things get a little more interesting when you haven't set up the services during installation or if you later upgrade your licensing model. In such situations, you can set up Visio Services using the following approach.

Go to Application Management ► Service Applications ► Manage Service Applications. Click the New button on the ribbon and then choose Visio Graphics Service. Provide a valid application name, and choose or create a new application pool under which this service application will run. As you create the application pool, you'll have the option to use any already configured service accounts or to register a new managed account, as shown in Figure 2-4.

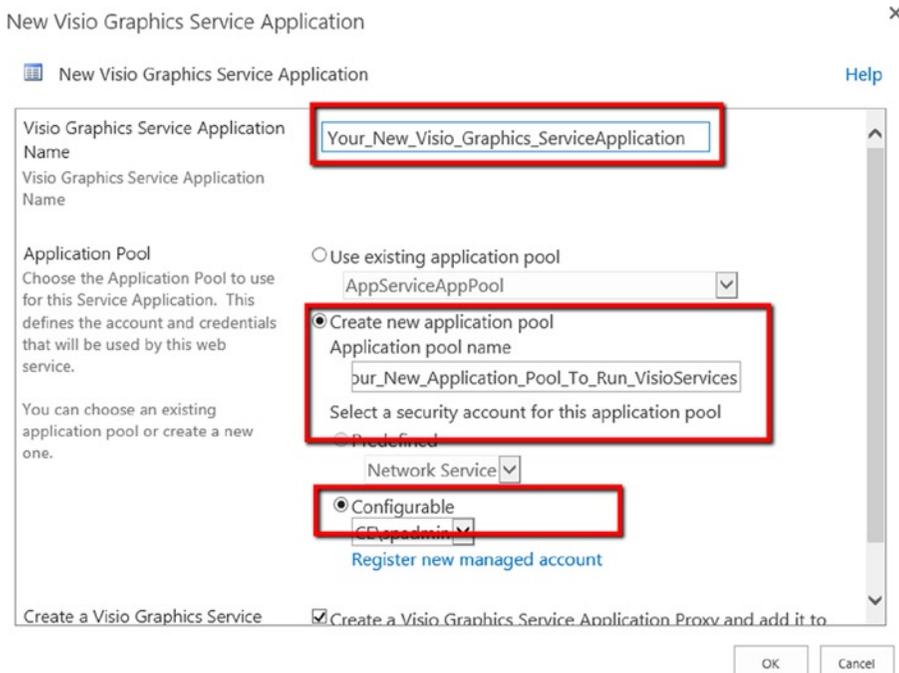


Figure 2-4. Setting up a new Visio Graphics Service application

Your new service application will now appear in the list of available service applications and you can configure it, as we'll discuss later in this chapter.

■ **Note** Once you create the new service application, you have to associate it with a web application. You can associate a new service application with a new web application or existing web application.

To associate a new service application with a web application, on the Central Administration go to Application Management ► Service Applications ► Configure service application associations and select the Web application you want to associate the service with. For the Configure service application association connections option, choose Custom. Select the desired custom service application and click on OK.

Let's now look at an example and see how to perform basic operations using Visio and Visio Services in SharePoint 2013.

Publishing a Basic Visio Diagram

In this example, we create a basic Visio diagram, and save and publish it to SharePoint. The published diagram can then be opened in the browser.

PROBLEM CASE

Check the status of five major airline carriers at the airport using a Visio diagram that's been published to SharePoint using Visio Services 2013.

Solution

Open Visio 2013 and choose Directional Map Shapes 3D (US Units) from the available diagrams, and add Airport to the page. Add a few images or shapes, such as Store 1, Tree, and Roof 1 from Directional Map Shapes 3D, and an Airplane from More Shapes ► Visio Extras ► Symbols (US units) ► Airport as shown in Figure 2-5.

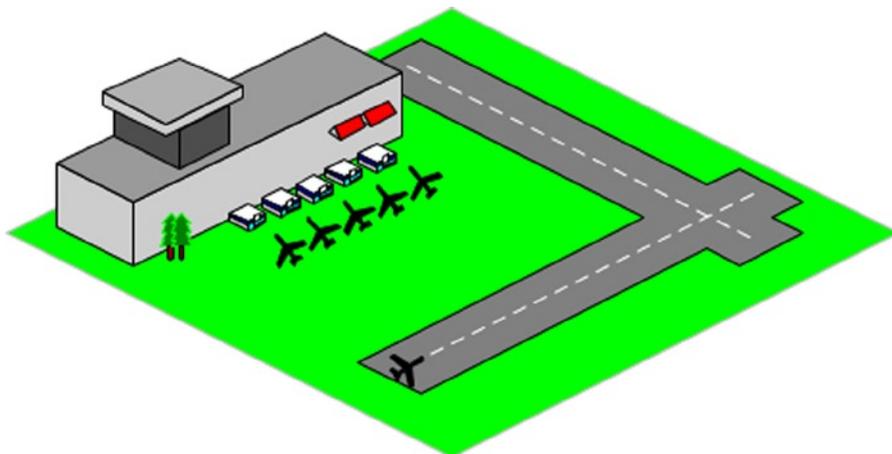


Figure 2-5. Airport stencil with various shapes

Your diagram doesn't need to look exactly like this. This example is only for your reference. You can design your own use case and try the concepts mentioned in the following example.

On the File menu, click on Save and save the drawing to a local file location as a Visio Drawing, `airport.vsd` in this example.

■ **Note** Unlike SharePoint 2010, where you need to save the `.vsd` file as web drawing file (`.vdw`) in order to view it on browser in SharePoint site, Visio 2013 offers a single drawing file extension (`.vsdx`) that you can use directly in SharePoint 2013.

To run Visio drawing (`.vsdx`) files, make sure that SharePoint Server Enterprise Site Collection Features feature is activated. You'll find this on the Site Collection Features under the Site Collection Administration of your web application.

Close Visio diagram and return to the folder where you saved the `<filename>.vsdx`

Open your SharePoint site, click on the site gear icon and choose the link 'Add an app' as shown in Figure 2-6.

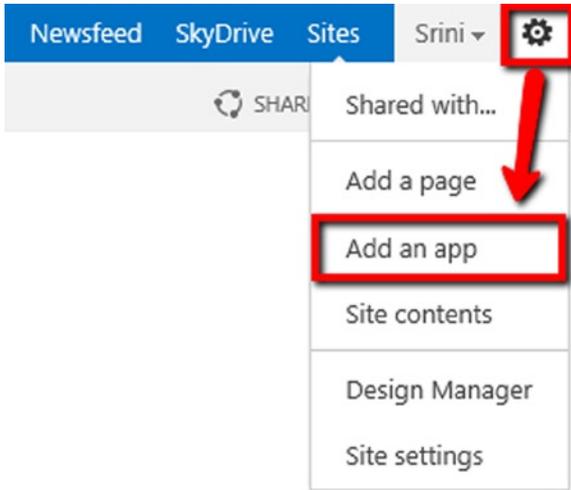


Figure 2-6. Add an app in SharePoint 2013

Click on the 'Document Library' icon from either the Noteworthy or Apps you can add section, as shown in Figure 2-7.

Site Contents › Your Apps

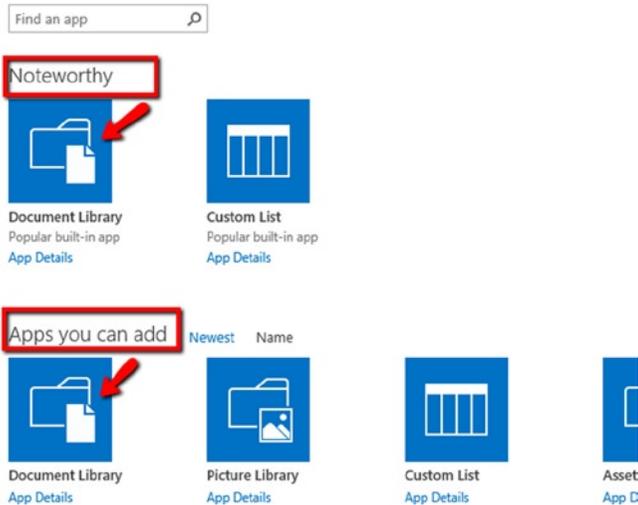


Figure 2-7. Adding specific app in SharePoint 2013

In the ‘Adding Document Library’ dialog, enter the name ‘Visio Library’ and click Create as shown in Figure 2-8. You do not need to use Advanced Options in this case.



Figure 2-8. Adding Document Library

Open the newly created document library and click on the ‘new document’ link or from the ribbon use the ‘Upload document’ option under the New section. Choose the .vsdx file you created earlier in the chapter and click ‘OK’.

After the document is successfully uploaded, you’ll be returned to the document library, where you’ll see a new item—the document you just uploaded—as shown in Figure 2-9.

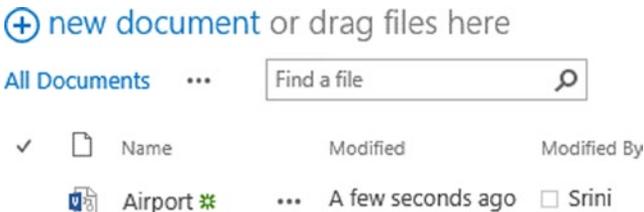


Figure 2-9. Document Library in SharePoint 2013

Click on the document Name column to open the Visio diagram in full screen mode in the browser, as shown in Figure 2-10.