

# Survey-Sharepoint Workflow Using Sharepoint Designer

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**Abstract – Workflow is a sequence of steps where each step is banded together, and is designed to automate processes. Many Organizations use workflows in their day-to-day activities to handle various processes. Be it a disappear request or the on boarding of a fresh resource, or the outlet of an employee, or the placing of procedure for IT, overall a process needs to be followed. This process is imbruted using workflows. This is where SharePoint is applicable. It offers numerous ways to create workflows. But it also has various numbers of limitations over there.**

**Index Terms – SharePoint, IT, Workflow.**

## 1. INTRODUCTION

### 1.1. SharePoint Workflow

A SharePoint workflow is like an automated flowchart that takes a lot of the labor, guesswork, and randomness out of our standard work processes.

For example, look at the document approval-process in the illustration. Running this process *manually* can mean a lot of checking up and keeping track, forwarding documents and sending reminders and each of those tasks has to be performed by we or by one or more of our colleagues. That means a lot of extra work and a constant stream of interruptions.

But when we use the SharePoint Document Approval workflow to run the process, all of that checking and tracking and reminding and forwarding is done by the workflow, automatically. If someone is late in completing a task, or if some other hitch arises, most of the included workflows generate a notification to let we know about it. Nobody in the group has to proactively monitor the process because with a SharePoint workflow, the process is always proactively monitoring itself.

And running a SharePoint workflow is easy. We just choose the workflow type you want, specify the options that will work best in our situation, and then let the workflow take over. And of course, we can cancel or terminate a workflow whenever we need to.

### 1.2. Overview of Workflow

SharePoint 2013 workflows are powered by Windows Workflow Foundation 4, which was substantially redesigned from earlier versions. Windows Workflow Foundation (WF), in turn, is built on the messaging functionality that is provided by Windows Communication Foundation (WCF).

Conceptually, workflows model structured business processes. Therefore, Windows Workflow Foundation 4 workflows are a structured collection of workflow "activities," each of which represents a functional component of a business process.

The workflow platform in SharePoint 2013 uses the Windows Workflow Foundation 4 activity model to represent a SharePoint-based business process. Additionally, SharePoint 2013 introduces a higher-level stage-gate model on which to create workflows.

The activities represent the underlying managed objects whose methods drive workflow behaviors. Workflow actions, on the other hand, are wrappers that encapsulate the underlying activities and present them in a user-friendly form in SharePoint Designer. Workflow authors interact with the workflow actions, whereas the workflow execution engine acts on the corresponding activities.

The activities, which are implementations of activity classes, are implemented declaratively by using XAML. Workflow activities are invoked using loosely coupled web services that use messaging APIs to communicate with SharePoint. These APIs are built on the messaging functionality that is provided by Windows Communication Foundation (WCF).

The messaging framework is very flexible and supports virtually any messaging pattern that you need. Note that on a SharePoint 2013 farm, Windows Workflow Foundation and WCF are hosted in Workflow Manager Client 1.0.

Workflow Manager Client 1.0, SharePoint 2013, and SharePoint Designer 2013 each provide significant parts of the new infrastructure:

- Workflow Manager Client 1.0 provides the management of workflow definitions. It also hosts the execution

processes for workflow instances.

- SharePoint 2013 provides the framework for SharePoint workflows, which model SharePoint-based business processes that involve SharePoint documents, lists, users, and tasks. Additionally, SharePoint workflows, associations, activities, and other workflow metadata are stored and managed in SharePoint 2013.
- SharePoint Designer 2013 is the primary business-user tool for creating workflow definitions and publishing them, as it was in previous versions. It can also be used to package a workflow definition with or without associated SharePoint components.

### 1.3. Process of Install and Configure Workflow Platform

At a high level, there are only three steps required to get the SharePoint 2013 Workflow platform installed and configured. Of course, this is a simplification, because each of these steps includes its own due diligence and set of best practices. Nevertheless, it is a straightforward process to getting up and running and exploring the technology in a test environment should be straightforward.

For example, you could:

1. Install and configure SharePoint Server 2013 by using the "stand-alone" installation that also installs SQL Server.
2. Install and configure Workflow Manager on the same virtual machine by using the SQL Server instance that was installed in step 1.
3. Configure the SharePoint Server 2013 farm to use Workflow Manager

## 2. WORKFLOW DEVELOPMENT TOOLS

There are several tools that come together to provide a rich workflow development experience. These include the following:

- SharePoint Designer 2013
- Visual Studio 2012
- Visio 2013
- InfoPath 2013
- A supported web browser such as Internet Explorer, Firefox, or Chrome

### 2.1. SharePoint Designer 2013

The primary development tool for a SharePoint Server 2013 workflow is called SharePoint Designer 2013. SharePoint Designer 2013 provides a rich set of features specifically designed for workflow development against both the SharePoint 2010 Workflow platform and the SharePoint 2013 Workflow platform. You work with SharePoint Designer 2013

by opening it on your local computer and then connecting it to a SharePoint Server 2013 site.

### 2.2. Visual Studio 2012

Visual Studio 2012 is used in many types of Microsoft development. You can use Visual Studio 2012 to develop workflows similar to SharePoint Designer 2013. However it can also be used to develop custom actions and tasks such as a workflow action that interacts with a custom application.

SharePoint Server 2013 ships with a rich assortment of actions and tasks. If you need a very specific action, you can use Visual Studio 2012 to develop it. The custom action can then be used in SharePoint Designer 2013 by a workflow developer.

### 2.3. Visio 2013

Visio 2013 is an Office application that is used to build diagrams by using shapes and connectors. You can use Visio 2013 to build workflows based on the SharePoint 2013 Workflow platform. You can import workflows from Visio 2013 into SharePoint Designer 2013, and vice versa.

To learn more about building workflows by using the Visual Designer in SharePoint Designer 2013, see Getting familiar with Visual Designer for workflow in SharePoint Designer 2013.

### 2.4. InfoPath 2013

InfoPath 2013 is a tool designed for form development. Using InfoPath 2013 you can customize the forms that a workflow uses as users interact with it.

### 2.5. Web browser

A web browser, such as Internet Explorer, Firefox, or Chrome, is what you use to interact with SharePoint Server 2013 sites. For example, you can create lists and libraries, associate a workflow with a list and library, add items to a list or library start a workflow on an item, and check the status of a workflow.

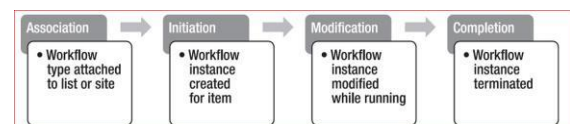


Fig 1. Workflow Cycle

## 3. PROPOSED SYSTEM

### 3.1. Types of Workflow

Each of the workflow types included act like a template. You add a version of the workflow for a single list or library, or for a whole site collection, using an initiation form to specify the options and selections that we want for this version — who the workflow assigns tasks to, task deadlines, how the workflow can be started and by whom, instructions to be included in the task notifications, and so forth.

By default, the Approval, Collect Feedback, and Collect Signature

workflows are not activated and are not listed in the Select a workflow template list box of the association form. To make them available for use, a site administrator must activate them at the site collection level.

There are five pre-programmed workflow types.

**3.1.1. Approval** (route a document or item for approval or rejection) An Approval workflow routes a document or other item to designated people for their approval or rejection. We can also use an Approval workflow to control content approval in a list or library.

**3.1.2. Collect Feedback** (route a document or item for feedback) A Collect Feedback workflow routes a document or other item to designated people for their feedback. The Collect Feedback workflow consolidates all of the feedback from participants for the workflow owner and provides a record of the review process.

**3.1.3. Collect Signatures** (route a document, workbook, or form for digital signatures) The Collect Signatures workflow routes a Microsoft Office document to designated people for their digital signatures. Note that the Collect Signatures workflow functions only with Word documents, Excel workbooks, and InfoPath forms.

#### 3.1.4. Three-State

The Three-state workflow is designed to track the status of a list item through three states (phases). It can be used to manage business processes that require organizations to track a high volume of issues or items customer support issues, sales leads, or project tasks, for example. With each transition between states, the workflow assigns a task to a person and sends that person an e-mail alert about the task. When this task is completed, the workflow updates the status of the item and progresses to the next state. The Three-state workflow is designed to work with the Issue Tracking list template, but it can be used with any list that contains a Choice column that has three or more values.

#### 3.1.5. Publishing Approval

A publishing approval workflow is similar to other SharePoint workflows in that it automates the routing of content to subject matter experts and stakeholders for review and approval. What makes the publishing approval workflow unique is that it's designed specifically for publishing sites where the publishing of new and updated web pages is tightly controlled. In these kinds of sites, no new content can be published until it has been approved by every approver in the workflow.

#### 3.2. Who can add and start a SharePoint workflow?

To add or start a workflow, we must have the correct permission for the list, library, or site collection where the workflow runs:

**To add a workflow:** By default, you must have the Manage Lists permission to add a workflow. The Owners group has the Manage Lists permission by default; the Members group and the Visitors group do not.

**To start a workflow:** Also by default, you must have the Edit Items permission to start a workflow that's already been added. The Members group and the Owners group both have the Edit Items permission by default; the Visitors group does not.

Alternatively, Owners can choose to configure specific workflows so that they can be started only by members of the Owners group.

#### 3.3. How do I add and run a SharePoint workflow?

The following diagram provides a high-level view of the basic stages for planning, adding, running, and modifying a SharePoint workflow. Individual sections on each of the steps follow.

#### 3.4. What's new in SharePoint 2013 workflows?

One of the much improved features of SharePoint 2013 is the workflow engine. SharePoint 2010 used 'Windows Workflow Foundation 3.5' to power workflows. SharePoint 2013 changes this and uses 'Windows Azure Workflows.'

This means quite a big change to how things work behind the scenes. Workflows now run as a separate service to SharePoint itself and can be hosted on-premise or externally (in much the same way as the new 'Apps' model works).

The new workflow platform, dubbed 'Workflow Manager,' brings with it many new enterprise class capabilities.

Technet lists these capabilities as:

- High Density and Multi-Tenancy
- Elastic Scale
- Activity / Workflow Artifact Management
- Tracking and Monitoring
- Instance Management
- Fully Declarative Authoring
- REST and Service Bus Messaging
- Managed Service Reliability

SharePoint Designer 2013 now includes everything we need to build these new workflows with some nice improvements over the previous version:

- Visual development tools using a Visio 2013 add-in
- Ability to call 'web services' without writing any code
- New building blocks like 'Stage', 'Loop', and 'App step'

#### 3.5. SharePoint Designer - with no Design Mode

Somewhat controversially this new version of Designer has done away with 'Design mode.' This has caused great concern with some users. There is a detailed discussion on TechNet about the pros and cons of this change and Developers and more experienced users can of course still use Visual Studio to build workflows.

#### 3.6. Backwards Compatibility of SharePoint Workflows

Microsoft has also maintained support for SP2010 workflows, so they will work as they did previously on SharePoint 2010 without any reworking. This backwards compatibility is a nice touch, though we will very much want to build anything new using the new engine. Workflows in SP2010 were good, but not a huge leap on from SharePoint 2007. SharePoint 2013 has really moved things on and workflows are now a hugely powerful area of the platform. It will be very interesting to see how the community gets on with the features and seeing what

is possible.

**Plan** Make sure that we know which options we want and what information we'll need to have available when we use the initiation form to add our version of the workflow.

**Add** Fill out the initiation form to add your workflow version to a list, library, or site collection.

**Start** Start our new workflow, either manually or automatically, on a document or other item in a list or library.

If we start it manually, we'll have the opportunity to change some of the workflow's association form settings on a briefer initiation form. When the workflow starts, it creates tasks, sends notification messages, and begins to track actions and events.

**Monitor** While the workflow is running, we can view the Workflow Status page to see which tasks are complete and what other actions have occurred. If necessary, we can adjust current and future tasks from here, and even cancel or terminate this workflow run.

**Review** When the run is complete, its whole history can be reviewed on the Workflow Status page. Also from the status page, statistical reports on the general performance of this workflow can be created.

#### 4. CONCLUSION

The underlying technology for all SharePoint sites, SharePoint Foundation is available for free on-premises deployment and was called Windows SharePoint Services in previous versions. Use SharePoint Foundation to quickly create many types of sites where can collaborate on b pages, documents, lists, calendars, and data. It is dependent on various hardware/software requirements, including a proper license for Microsoft Windows Server. It contains much of the core functionality and architecture drawn on by the commercial version of the package. Downloading SharePoint Foundation 2010 requires a mandatory registration but this has been omitted for the 2013 version.

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