

THEOBALD
SOFTWARE

ERPConnect Services:

Integrating your
Nintex Workflow solutions
with SAP

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Theobald Software Inc.
www.theobald-software.com

info@us.theobald-software.com




Microsoft Partner
Gold Independent Software Vendor (ISV)
Silver Business Intelligence

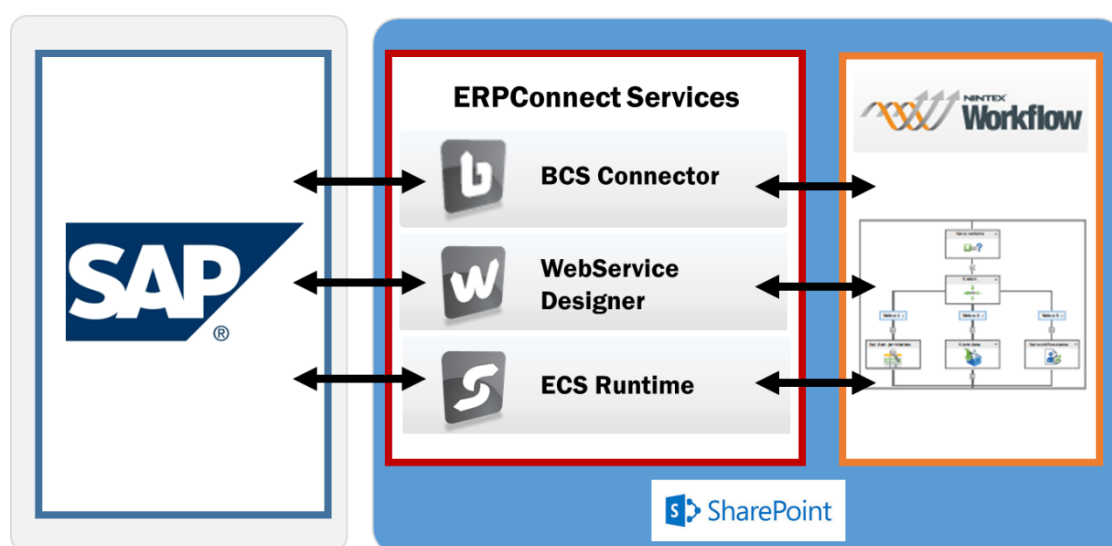
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Introduction

ERPConnect Services simplifies the integration of SAP data into your SharePoint solution. Customers that use Nintex Workflow in their SharePoint environment can utilize ERPConnect Services to access data in their SAP system. This document provides you with an overview and references to specific examples for how Nintex Workflow can work together with ERPConnect Services in scenarios that involve SAP data and processes.



ERPConnect Services is fully integrated into the SharePoint architecture and offers three different SAP integration options for your Nintex Workflow solution.

In the first option, the Nintex workflow interacts with an external list in SharePoint. The external list is based on an SAP content type that can be created with the BCS Connector without any coding effort.

In the second option, the Nintex workflow interacts with a web service that can be created with the WS Designer and that exposes SAP data or an SAP process.

Finally, in the third option, the Nintex workflow contains one of the custom actions (*Call SAP Function* and *Read SAP Table*) that are delivered with ERPConnect Services and enable direct read/write access to SAP.

We will examine each of these options more closely on the following pages.

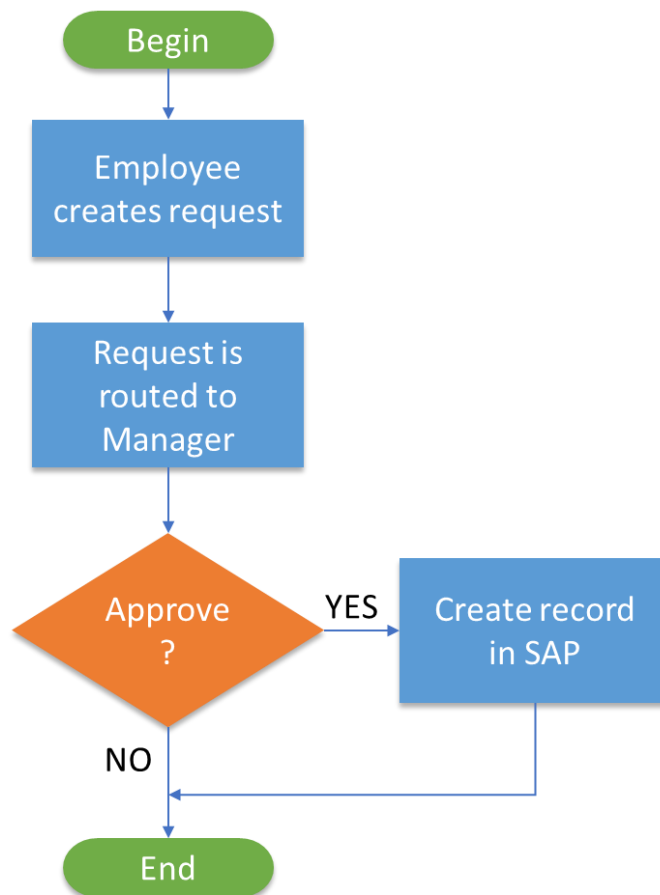
The solutions outlined in this document are supported in both SharePoint 2010 and SharePoint 2013, and with both Nintex Workflow 2010 and Nintex Workflow 2013.

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A Simple Workflow Scenario

The following scenario describes a simple workflow that is used for example in a master data management or a purchase requisition process.

In the scenario, an employee can go to a SharePoint site and completes a request form for a material master record update, or a request form for a product purchase. On the request form, the employee can enter the details for the material update or the product purchase, as well as a due date or comments for the request. Once the form is submitted, the request is routed to a manager for approval.



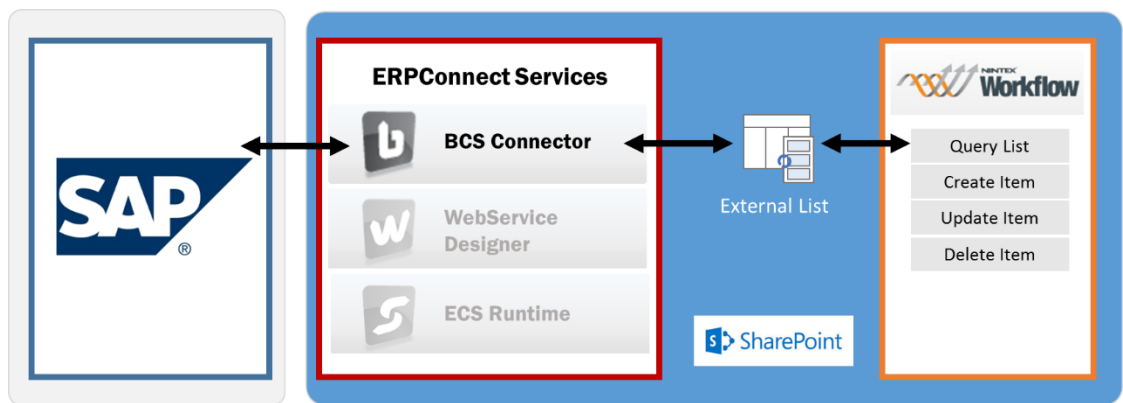
When the Manager approves, the material or purchasing record is created in SAP.

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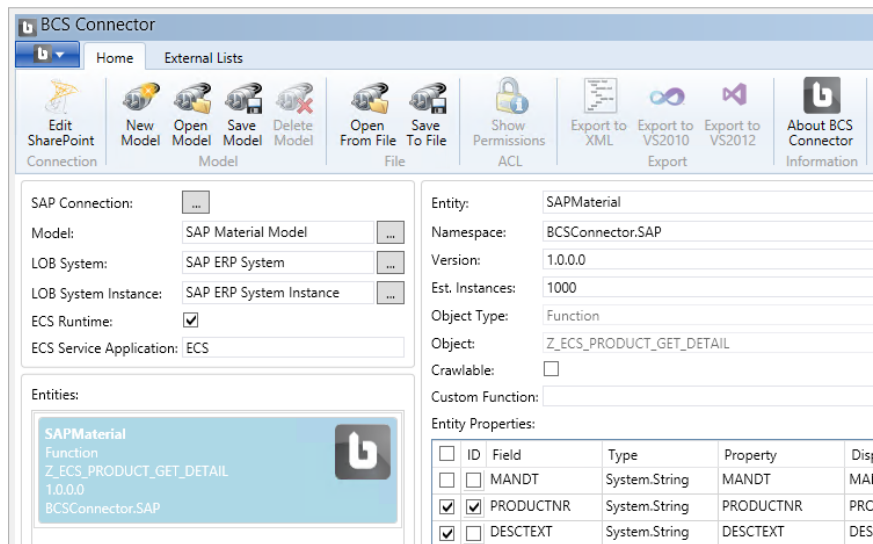
Integration Options

3.1 Using Business Connectivity Services (BCS) and External Lists

This integration option utilizes the BCS and external list functionality in SharePoint. The external list (for example representing SAP material records) is connected to SAP and can easily be created using the BCS Connector in ERPConnect Services. In your Nintex Workflow solution, you can use standard Nintex Workflow actions, such as *Query List* or *Create Item*, to interact with the external list.



With the BCS Connector, you can define a BCS entity and its operations. In our example, the entity represents a material record in SAP with operations to read and create a material record. Each entity operation is mapped to a remote function module in SAP.

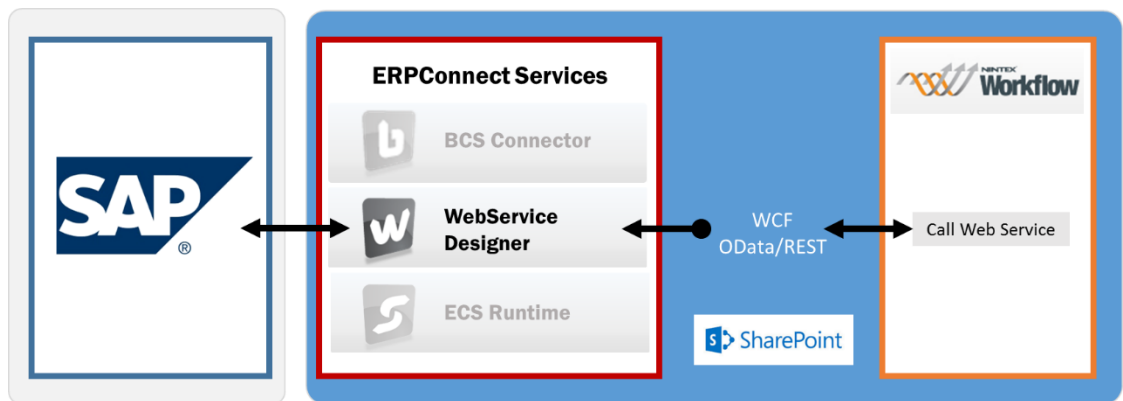


Nintex Workflow offers *Query List*, *Create Item*, *Update Item* and *Delete Item* actions that can be used on SharePoint external lists.

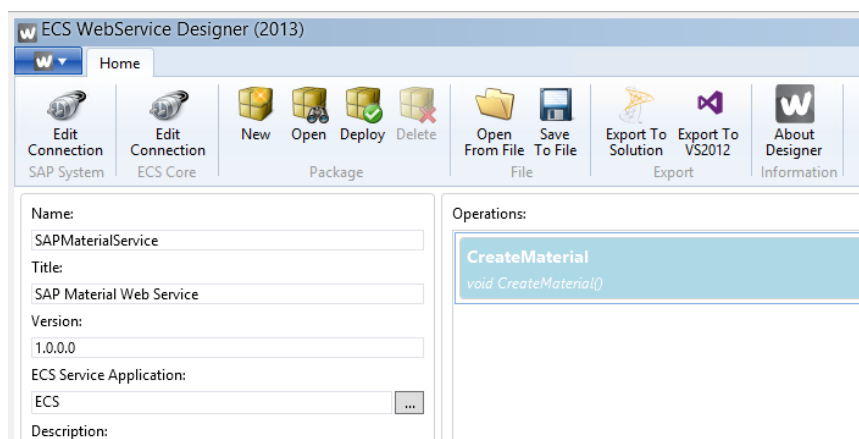
For a detailed step-by-step example of this integration solution, please see [Using Business Connectivity Services \(BCS\) and External Lists](#).

3.2 Using Web Services provided by ERPConnect Services

This integration option utilizes a WCF or OData/REST service that is hosted in SharePoint and enables SAP data access. In your Nintex Workflow solution, you can use the standard Nintex Workflow action, *Call Web Service*, to invoke the service for SAP access.



The WebService Designer in ERPConnect Services allows you to create and deploy a web service that connects directly to SAP without having to write any code. In our example, the web service encapsulates and abstracts the functionality of creating or updating a material master record in SAP. Multiple interactions with SAP, such as a sequence of remote function calls or read table operations can be encapsulated in a single web service operation.

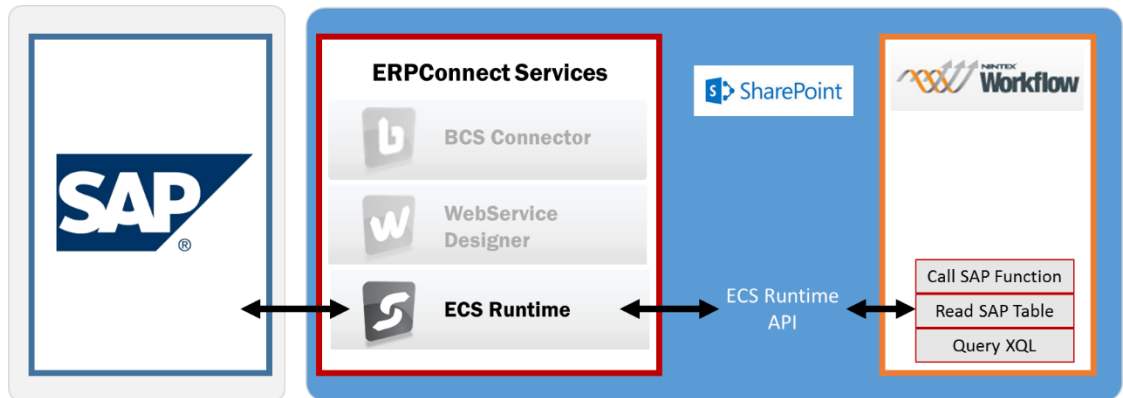


In your Nintex workflow you can use the Nintex Workflow action, *Call Web Service*, to invoke the service.

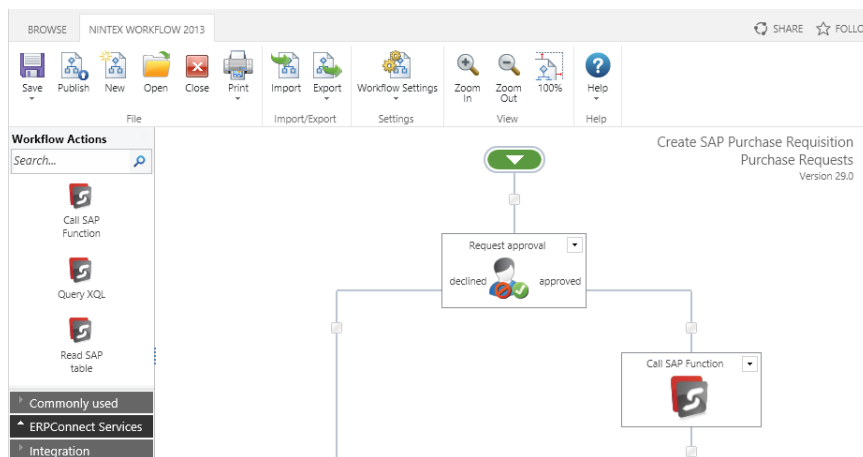
For a detailed step-by-step example of this integration solution, please see [Using Web Services](#)

3.3 Using the Custom Actions provided by ERPConnect Services

This option eliminates the task of creating and deploying a web service or an external list in SharePoint. The Nintex workflow can interact directly with SAP via one of the provided custom actions: *Call SAP Function*, *Read SAP Table* or *Query XQL*.



The *Call SAP Function* action allows you to call any remote-enabled SAP function module or BAPI for read/write access to SAP. The *Read SAP Table* action enables you to read data from any SAP table. You can also use the *Query XQL* action to call SAP functions or read from SAP tables, using XQL (Extract Query Language) statements.



For a detailed step-by-step example of this integration solution, please see [Using the Custom Workflow Actions](#).

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Summary

This document outlined three different options for using ERPConnect Services to enable SAP access for your Nintex Workflow solutions.

For SharePoint solutions that utilize the Business Connectivity Services and external lists for access to SAP data, the Nintex Workflow list actions (*Query List*, *Create Item*, *Update Item*, *Delete Item*) can be used. The advantage of this integration option is that the actions in Nintex Workflow are easy to configure. In addition, external lists in SharePoint can be useful in other scenarios and come with out-of-box forms and functionality. Using the BCS Connector, which is part of ERPConnect Services, you can create an external content type for an SAP table or function module with just a few steps and deploy it directly to SharePoint.

Using the Nintex Workflow actions, *Call Web Service* or *Web Request*, enables access to SAP data and processes with a WCF or OData/REST service that you can create and deploy with the WS Designer of ERPConnect Services. The drawback of this option is that the service requests have to be properly formatted in the workflow action which can be somewhat challenging.

Finally, you can use the *Call SAP Function* and *Read SAP Table* custom actions in your Nintex Workflow to call any remote-enabled SAP function module or BAPI (for read/write access), or to read data from any SAP table. Alternatively, you can also use the *Query XQL* custom action. All three custom actions are delivered with ERPConnect Services and are easy to configure and use.

Give it a try. ERPConnect Services is available as a free trial for 30 days from our web site at www.theobald-software.com.