



Documentation

Installation Manual

SharePoint interface for GBS Workflow Manager 3.0

Office 365 Deployment

Document Version 1

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1 Introduction

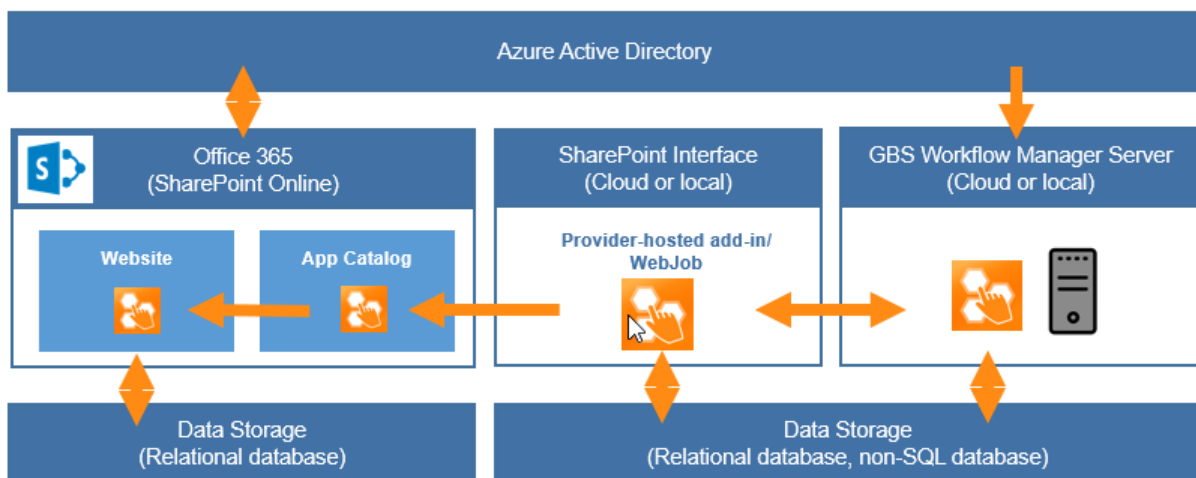
1.1 This manual

This manual is addressed to administrators and describes the prerequisites that need to be installed on a SharePoint Online environment prior to the installation and configuration of *SharePoint interface for GBS Workflow Manager*. These prerequisites include an App Catalog and a site collection, which are often configured in production environments.

After, it follows the description of the GBS Workflow Manager app installation.

1.2 Architecture

The SharePoint interface is a part of the GBS Workflow Manager solution and an add-on to the GBS Workflow Server. The GBS Workflow Manager Server provides most of the features which are used by the SharePoint interface. It has to be installed separately and should run before the installation and setup of the SharePoint interface has been started. The GBS Workflow Manager Server is delivered with a separate setup package. The following illustration gives you an overview of the architecture of the GBS Workflow Manager solution.



Installation and deployment:

1. Installation of **GBS Workflow Manager Server**:
The GBS Workflow Manager Server is installed in a session that is independent from Office 365. This session may be a local one or be located on a Cloud platform (e.g. Microsoft Azure).
2. Installation of **provider-hosted add-in** and **Web Job**:
It is the **SharePoint Interface** by which the provider-hosted add-in and the web job gets installed in a session. This may be the GBS Workflow Manager Server's session or another session. The session may be local or be located on a cloud platform (e.g. Microsoft Azure).
3. Deployment of **provider-hosted add-in**:
The provider-hosted add-in is deployed to the **App Catalog** of Office 365.
4. Adding the **provider-hosted add-in** to SharePoint **websites**:
The provider-hosted add-in is added to one or several SharePoint **websites**.

Data storage:

The **data storage** of the GBS Workflow Manager Server and the provider-hosted add-in can be managed by the same relational database management system (e.g. Microsoft SQL) or by separated systems.

User authentication:

For user authentication, GBS Workflow Manager Server uses the same **Azure Active Directory** as the provider-hosted add-in and Office 365.

2 Prerequisites

For a successful installation and execution of SharePoint interface for GBS Workflow Manager, certain prerequisites must be met.

The following software must be installed:

- SharePoint Online (available in multiple Office 365 plans)
- Azure Service in Azure subscription
- SQL Server hosted in Azure subscription
- GBS Workflow Manager Server

Web Browsers:

The use of the user interface requires a web browser on a Microsoft Windows operating system (Windows 7, Windows 8.1, Windows 10). GBS aims at ensuring to support the most current version of the web browsers listed below. However, please refer to the *Release Notes* for information on the version number that is currently supported.

- Microsoft Internet Explorer
- Mozilla Firefox
- Google Chrome

Using another web browser might possibly cause problems.

2.1 App catalog

If you do not have an app catalog in your tenant yet, navigate to SharePoint Admin Center available under <https://YOURTENANT-admin.sharepoint.com> and click on Apps on the left-hand menu. Choose to create a new App Catalog and follow the pop-ups:

This article will provide you with [more information on App Catalog in Office 365](#).

2.2 Creating the Developer Site or the Team Site

If you do not have a site collection yet or would like to create a new one for Workflow Manager, navigate to SharePoint Admin Center. Then, choose **New** on the Ribbon and fill out the required information:

3 Remote Web Application – Azure Website

3.1 Create SQL Server in Azure

Workflow Manager requires an SQL database. If you do not have one, login to your Azure subscription and create Azure SQL Server that will host Workflow Manager databases. You can follow the article below in order to create an SQL Server and SQL Database:

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-get-started-portal>

3.2 Azure Web App

For the installation of the GBS Workflow Manager App on Azure, you require an Azure account and an Azure website. If you do not have an Azure Website, you can quickly create one by navigating to **AppServices > Add > Web App**.

3.3 Configuring the Azure Web App

1. In the Azure Web App, navigate to the **Application Settings > App Settings**:
2. Add two keys: ClientID and ClientSecret.
These values will be reused in chapter 4.2. when registering the app in SharePoint. You can generate the values for these keys using the AppRegNew.aspx page described in chapter 4.2.
3. In the Azure Web App, navigate to **Application Settings > Connection Strings**:

Enter the connection strings to your SQL database created in the previous step, e.g.:

```
Data Source=tcp:EXAMPLEDB.database.windows.net,1433;  
Initial Catalog=WorkflowManager;Persist Security Info=False;User  
ID=YOURUSERNAME;Password=YOURPASSWORD;Connect  
Timeout=120;Encrypt=True;TrustServerCertificate=False
```

4. In the Azure Web App navigate to **Application Settings > General Settings**:
Set **Always On** to **ON**.

3.4 Adjusting the website content

1. Navigate to the **web.config** file in the **WebContent** folder you have been provided with.
2. In the **AppSettings** section, make sure that the following keys are uncommented and filled:
 - ADFS:AuthenticationType – set to **None**
 - spsam1:ClaimProviderType – set to **NONE**
3. Save the web.config file. It needs to be uploaded to Azure.
The steps can be found in the next chapter.

3.5 Adding website content to the Azure website

Content to the Azure Website can be uploaded using FTP or PowerShell. Read on if you choose FTP to upload the content of the GBS Workflow Manager app to Azure. Move to the next chapter 3.5.1 if you prefer to use Azure PowerShell.

The content can be found in the delivered **Website Content** folder. Once the connection to the FTP server is established, copy the website content into the **wwwroot** folder of your Azure website.

Note: The login information for the FTP connection can be found on the dashboard of your Azure website. These might look as follows:

- FTP host: <ftp://waws-prod001.ftp.azurewebsites.windows.net>
- FTP user: <user name>
- FTP password: <password>

Adding website content to the Azure website using PowerShell

```
Import-Module azure
Add-AzureAccount

Select-AzureSubscription -SubscriptionId $SubscriptionID

#Make sure that the selected website exists in your subscription
$website = Get-AzureWebsite -Name $AzureWebsite
if($website)
{
    Write-Host "Azure website $AzureWebsite found in the subscription"
}
else
```

```
{  
  Write-Host "Azure website $Azurewebsite not found in the subscription  
$SubscriptionID"  
}  
  
Publish-AzureWebsiteProject -Package $WebDeployPath -Name $Azurewebsite -Verbose
```

3.6 Azure Active Directory authentication

Optionally, SharePoint interface for GBS Workflow Manager can be configured to use app registrations and Azure Active Directory authentication in order to enhance user logging experience. Follow the steps below to implement it.

1. Navigate to portal.azure.com and login using your Office365 account. In the left pane go to **Azure Active Directory** and then **App registrations**:
2. Click **+Add** to create a new App Registration. Enter the properties and respect the following
 - The Azure website URL should be entered as home page URL.
 - In the App ID URI, enter a unique URI that Microsoft AD can use for this app.
 - Make sure that **Multi-tenanted** is set to **No**.
3. Go back to the previous pane and open the **Reply URLs** tab:
4. Enter the following four values:
 - <https://TheAddressOfYourAzureWebsite/>
 - https://login.microsoftonline.com/YourO365Tenant.onmicrosoft.com/oauth2/logout?post_logout_redirect_uri=https://gbs.com
 - The URL of your Workflow Manager Backend installation
 - <https://TheAddressOfYourAzureWebsite/>

Mind that the URL of your Azure Website needs to be entered twice: once without a trailing slash and once with a trailing slash and a wildcard sign (/**).

Now your App Registration is ready.

Adjusting the website content

1. Navigate to the **web.config** file in the **WebContent** folder you have been provided with.

2. In the **AppSettings** section, make sure that the following keys are uncommented and filled:

```
<add key="ADFS:AuthenticationType" value="AzureOpenIDConnect" />
  <!--AzureOpenIDConnect, ADFSOpenIDConnect, WSFederation, None-->
  <!--Used for OpenIDConnect Azure auth-->
  <add key="ida:ClientId" value="2b9f74e7-2bef-4ca3-8e4e-038353da66a6" />
  <add key="ida:RedirectUri"
value="https://workflowmanager3214.azurewebsites.net" />
  <add key="ida:Secret" value="fi5vqvziWfhiCn1+3M0hBkZ2P0QccZxq0QVQ=" />
  <add key="ida:Authority"
value="https://login.windows.net/workflowmanager3214.onmicrosoft.com" />
```

- ADFS:AuthenticationType – set to **AzureOpenIDConnect**
 - ida:ClientId – ApplicationID from the Workflow Manager app registration
 - ida:RedirectUri – the URL of Azure website
 - ida:Secret – in order to generate the secret, navigate to the Workflow Manager **app registration** > **Keys** and enter **Secret** in the Description field. The value will be generated on save. Make sure you save it.
 - ida:Authority – Replace “workflowmanager3214” with the name of your tenant.
3. Save the web.config file. It needs to be uploaded to Azure.
The steps can be found in the next chapter.

4 Installation of the GBS Workflow Manager app

Take the provided .app package and open it, e.g. with a WinRAR program.

1. Open the **AppManifest.xml**.
2. For the **ClientID**, replace the asterisk (*) with the ClientID from Azure Web App **Application Settings > App Settings**.
3. Replace **~remoteAppUrl** with an actual URL of Azure website, as shown in the following example:

```
<App xmlns="http://schemas.microsoft.com/sharepoint/2012/app/manifest" ...>
  <Properties>

  <StartPage>http://gbsworkflowmanager.azurewebsites.net/?{StandardTokens}&TypeDisplay=FullScreen</StartPage>
    <Title>GBS AppDesigner</Title>
    <InstalledEventEndpoint>http://gbsworkflowmanager.azurewebsites.net/Services/AppEventReceiver.svc</InstalledEventEndpoint>
    <UninstallingEventEndpoint>http://gbsworkflowmanager.azurewebsites.net/Services/AppEventReceiver.svc</UninstallingEventEndpoint>
    <SupportedLocales>
      <SupportedLocale CultureName="de-DE" />
      <SupportedLocale CultureName="en-US" />
      <SupportedLocale CultureName="en-GB" />
    </SupportedLocales>
    <UpgradedEventEndpoint>http://gbsworkflowmanager.azurewebsites.net/Services/AppEventReceiver.svc</UpgradedEventEndpoint>
  </Properties>
  <AppPrincipal>
    <RemoteWebApplication ClientID="*" />
  </AppPrincipal>
  <AppPermissionRequests AllowAppOnlyPolicy="true">
    <AppPermissionRequest Scope="http://sharepoint/content/tenant" Right="FullControl" />
    <!--<AppPermissionRequest Scope="http://sharepoint/search" Right="QueryAsUserIgnoreAppPrincipal" />-->
  </AppPermissionRequests>
</App>
```

In the same .app package, navigate to the biggest elements<guid>.xml file and replace **~remoteAppUrl** with the url of your Azure website:

```
</CommandUIDefinition>
  </CommandUIDefinitions>
  <CommandUIHandlers>
    <CommandUIHandler Command="ADFormsNew.Command"
  CommandAction="http://gbsworkflowmanager.azurewebsites.net/Form/RedirectToAppDSNewForm?{StandardTokens}&SPListId={ListId}" />
    <CommandUIHandler Command="ADFormsAssociate.Command"
  CommandAction="http://gbsworkflowmanager.azurewebsites.net/Form?{StandardTokens}&SPListItemId={SelectedItemId}&SPListId={ListId}" />
    <CommandUIHandler Command="ADWorkflowsAssociate.Command"
  CommandAction="http://gbsworkflowmanager.azurewebsites.net/workflow?{StandardTokens}&SPListItemId={SelectedItemId}&SPListId={ListId}" />
    <CommandUIHandler Command="ADWorkflowsNew.Command"
  CommandAction="http://gbsworkflowmanager.azurewebsites.net/workflow/RedirectToAppDSNewWorkflow?{StandardTokens}&SPListId={ListId}" />
  </CommandUIHandlers>
```

4.1 Uploading the app to the App Catalog

You can upload the changed **GBSWorkflowManager.SP.app** file to the app catalog that you have created.

1. To do so, navigate to **Apps for SharePoint**, then click on **New app** to upload the app.
2. In the newly opened window, enter the path of the **GBSWorkflowManager.SP.app** file. Then confirm with **OK**.

The app is now uploaded and its properties can now be updated.

3. Since the properties of the app cannot be filled through the **appmanifest.xml**, this has to be done manually. So, you have to enter the information in the appropriate fields.

You can obtain the following information

Title:

GBS Workflow Manager

Short Description:

Easy and intuitive automation of business processes in SharePoint

Description:

The GBS Workflow Manager enables companies to easily create and automate business processes for any potential use case. From simple document management to complex business logic, workflows can be designed and deployed within short time.

Thanks to the integrated Form and Workflow Designer tools, business process logic and user interfaces can be created in just a few clicks without the need of programming skills. In order to develop more complex workflows with integration of third-party systems, GBS Workflow Manager supports custom connectors. And since the Workflow Designer supports the recognized standard BPMN 2.0, no additional training is needed.

Icon URL:

<https://<appdomain>/Content/img/AppDesignerIcon.png>

Publisher Name:

GBS Europa GmbH

4. Wait until uploading of the app has finished and then refresh the browser.

You should see the following page:

4.2 Using AppRegNew.aspx for registration

You should use **AppRegNew.aspx** for the registration of your app for SharePoint if you intend to use the app only in one tenant or one farm. For example, if you create apps for one single organization and use the organization's app catalog to distribute the app, you can use the **AppRegNew.aspx** page of any website in a tenant or farm to register the app.

To create the app identity, navigate to

http://<SharePointWebsite>/_layouts/15/AppRegNew.aspx in the tenant or the farm.

For the registration, you require the following values from Azure Web App **Application Settings > App Settings**:

- Client ID/App ID: Generate the value (Button: **Generate**)
- Client Secret/App Secret: Generate the value (Button: **Generate**)
- Title = **GBS Workflow Manager**
- App Domain = **providerhostedapp.azurewebsites.net**
- Redirect URI = **https://providerhostedapp.azurewebsites.net /**
Note: The deviation URI is required for those apps that are started from outside of SharePoint. The value must be a complete endpoint URL. **HTTPS** is required.

Fill in the blanks as described and then click on **Create**:

Once you have registered the app successfully, the given and generated information will be displayed for review. Click **OK** to complete the registration.

4.3 Installing the app in SharePoint

Add GBS Workflow Manager to your SharePoint site:

1. To do so, click **Add an app**.
Under **Site Contents > Your Apps**, the **GBS Workflow Manager** app is displayed under **Apps you can add**.
2. Under **AppDetails**, you can display the information about the app:
Remark: The AppDetails are entered manually as described in chapter 4.1 *Uploading the app to the App Catalog* of this manual.
3. Under **Apps you can add**, click **GBS Workflow Manager**, to install this app.

4. Then, assign access rights to the app on the Site Collection.

After a successful installation, the app you installed will be listed on the **Site Contents** and **Home** pages.

4.4 Adjustment in the Internet Explorer

To allow the forwarding of the login data to the Remote Web Application, we recommend adjusting the security settings of your browser for **Trusted Sites** and **Local Intranet**.

1. To do so, in your Internet Explorer, navigate to **Tools > Internet Options > Security**.
2. First, select **Trusted Sites** and click **Sites**.
Add the URL of your app.
3. Now, select **Local intranet** and click **Sites**.
Click **Advanced**:
4. Add the URL of your Web Application under which the app is installed.
5. Close the **Internet Options** window and the browser.
When the browser is reopened, the app should open successfully.

4.5 Disabling the ‘Minimal Download Strategy’ site feature

1. Open the **Site Settings** and follow the **Manage Site Features** link.
2. Search for the **Minimal Download Strategy** entry.
3. If this feature is active, disable it.

5 Possible errors

5.1 Content type text/html of response message does not match content type of the binding

Solution: Navigate to your <https://YOURNAME.azurewebsites.net> Azure website and verify that it opens with a similar message as this one: “SharePoint context could not be found”

5.2 The operation took too long

Because Office 365 runs in a shared tenancy environment, sometimes available resources may not be sufficient to install the app in a reasonable timeframe. If the error indicates installation timeout, click on “Click to retry”:

6 Browser support

6.1 Internet Explorer

a) Display mixed content

To hide the message “Only secure content is displayed” or to display the content, follow the following steps in the **Internet Options** of the Internet Explorers:

1. Click on the gear icon to open the context menu and click on **Internet Options**.
2. In the **Internet Options** window, navigate to the **Security** tab and, at the **Internet** zone, click on **Custom level**.
3. In the bottom third, scroll to **Display Mixed Content** and select **Enable**.
4. Confirm the change in the **Security Settings – Internet zone** and **Internet Options** windows.
Restarting the Internet Explorer might be necessary.

b) Accepting third-party cookies

If the following error „SharePoint context could not be found“ appears when an item is created, you should check whether third-party cookies are accepted.

To do so, in the Internet Explorer, choose **Internet Options/Privacy/Advanced** and make sure that the **Accept** option is selected for **Third-party Cookies**.

c) Entering URLs for the acceptance of cookies

If, when an item is created, the error mentioned under **b)** occurs, enter the websites for which the use of cookies is always accepted regardless to their Privacy Policy.

1. In the Internet Explorer choose **Internet Options/Privacy/Sites**.

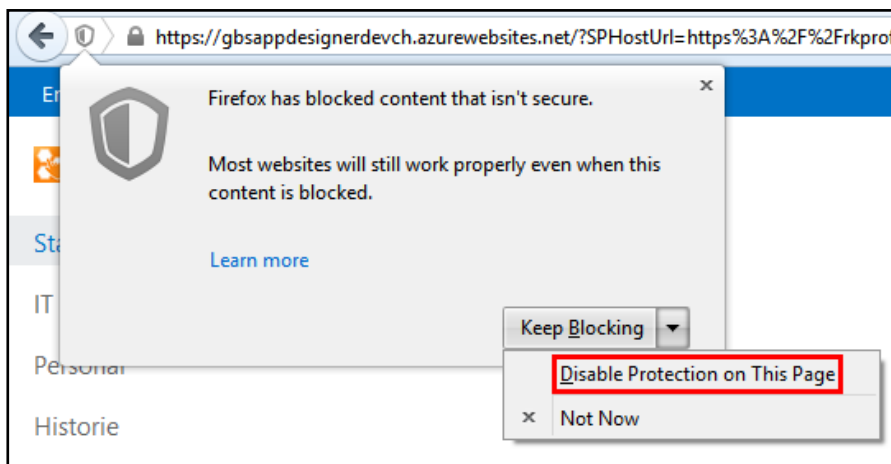
2. Under **Website address**, enter the complete URL and then click **Accept**.
Do this for both URLs, the provider hosted add-in and for the URL of the Workflow Manager, for example „https://workflowmanager.azurewebsites.net/“ and "https://workflowmanager.gbs.com".
3. Confirm with **OK** and click **OK** to close the **Internet Options**.

6.2 Chrome

When the Azure website is called, in Chrome a gray shield indicates that unsecure scripts were not loaded. Click the shield and then on the **Allow unsafe scripts** phrase. This will reload the page and the central components of the GBS Workflow Manager app will be displayed.

6.3 Firefox

If you are on the Azure website, click the gray shield to the left of the address line. Then click the arrow next to **Keep Blocking** and choose **Disable Protection on This Page**. Confirm the new window by clicking on **Resend**.



7 Helpful PowerShell script

Check and remove Service Principal

`Connect-MsolService`

```
Get-MsolServicePrincipal | where {$_.DisplayName -eq "GBS Workflow Manager"}  
Remove-MsolServicePrincipal -ObjectId <objectIDfromPreviousCmdlet>
```

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