



Sun GlassFish Web Space Server 10.0 Microsoft Sharepoint Add-On Guide



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Contents

1 Overview	5
Who Should Read This Guide?	5
What Are Sun GlassFish Web Space Server Add-Ons?	5
Where Can You Get Web Space Server Add-On Packages?	6
Additional Sun GlassFish Web Space Server Documentation	6
2 Downloading and Installing Microsoft Sharepoint Add-On	7
Before You Begin	7
System Requirements	7
Installation Directories	7
Platform-Specific Path Separators	8
Downloading the Sharepoint Add-On	8
▼ To Download the Sharepoint Add-On Using the GUI-Based Update Tool	8
▼ To Download the Sharepoint Add-On Using the CLI-Based pkg Tool	11
Installing the Sharepoint Add-On	11
▼ To Install the sharepoint Component	12
3 Sharepoint Integration With Sun GlassFish Web Space Server	13
Prerequisites for Sharepoint Integration	13
Introduction to Sharepoint Integration	14
Using the Sharepoint Integration Admin Portlet	17
Manage Sites Tab	17
Control Crawler Tab	19
User Mapping Tab	21
How Does Crawler Work?	23
User Mapping Between Web Space Server and Sharepoint Service	24
▼ To Add a User on Active Directory to Web Space Server	24

CredentialVault Service	25
Using the Sharepoint Search Portlet	26
▼ To Use the Sharepoint Search Portlet	26
Using the Sharepoint Membership Portlet	26
▼ To Use the Sharepoint Membership Portlet	26
Supported Features of Windows Sharepoint Services 3.0	29

Overview

The Sun™ GlassFish™ Web Space Server 10.0 Microsoft Sharepoint Add-On provides an interface between Microsoft Sharepoint services and Web Space Server.

This chapter includes the following topics:

- “Who Should Read This Guide?” on page 5
- “What Are Sun GlassFish Web Space Server Add-Ons?” on page 5
- “Where Can You Get Web Space Server Add-On Packages?” on page 6
- “Additional Sun GlassFish Web Space Server Documentation” on page 6

Who Should Read This Guide?

This guide is intended for registered Web Space Server users who want to use the Microsoft Sharepoint Add-On for Sun GlassFish Web Space Server package to enhance the power of Web Space Server software with Sharepoint integration features.

Note – This guide does not provide detailed usage instructions for using Web Space Server in general. For such information, refer to the rest of the [Sun GlassFish Web Space Server Document Collection](#).

What Are Sun GlassFish Web Space Server Add-Ons?

The Sharepoint Add-On for Sun GlassFish Web Space Server is one of several add-on packages available for Sun GlassFish Web Space Server software. These add-ons, also sometimes called *accelerators*, are an evolving set of stand-alone feature packages that provide performance enhancements and easier integration with third-party software tools. See the [Sun GlassFish Web Space Server](#) product page for the most current list of add-on packages.

Where Can You Get Web Space Server Add-On Packages?

The Sun GlassFish Web Space Server add-on packages are available for free to registered Web Space Server users through the Sun GlassFish Update Tool. The specific add-on packages that are available to you depend on how your Web Space Server software is registered:

- Registered users with a paid Web Space Server service contract have unlimited access to the full set of Web Space Server add-ons.
- Registered users who do not have a paid Web Space Server service contract have access to a limited subset of the Web Space Server add-on collection.

Although the Sun GlassFish Web Space Server software is a free, **open source** product, the Web Space Server add-ons are proprietary components developed and licensed by [Sun Microsystems, Inc.](#)

To learn more about Web Space Server, add-on products for Web Space Server, and Web Space Server service contracts, go to the [Sun GlassFish Web Space Server](#) product page.

Additional Sun GlassFish Web Space Server Documentation

Each Web Space Server add-on package has its own user's guide. See the [Sun GlassFish Web Space Server Add-On Document Collection](#) for links to documentation for the currently available add-on products. Be sure to check back often, as the list of available add-ons is updated frequently.

For complete documentation for the core Sun GlassFish Web Space Server 10.0 software product, see the [Sun GlassFish Web Space Server Document Collection](#). You can also refer the [Open Portal](#) documentation site.

Downloading and Installing Microsoft Sharepoint Add-On

This chapter explains how to download and install the Microsoft Sharepoint Add-On for Sun GlassFish Web Space Server software.

Before You Begin

This section explains the basic requirements and concepts you should review before proceeding to the installation of the Sharepoint Add-On for Web Space Server.

System Requirements

The Web Space Server software should be installed as described in the [Chapter 2, “Web Space Server Installation Instructions,”](#) in *Sun GlassFish Web Space Server 10.0 Administration Guide*. Note that the requirements listed in the “Software and Hardware Requirements” in *Sun GlassFish Web Space Server 10.0 Installation Guide* also apply to the Sharepoint Add-On.

If you are installing the Sharepoint Add-On on a Web Space Server 10.0 update version, make sure that you are using a compatible version. For example, the Sharepoint Add-On for Web Space Server 10.0 Update 5 should be installed only on a Web Space Server 10.0 Update 5 installation.

Installation Directories

The name of the core Web Space Server bundle is `webspace-version-for-glassfish.zip`. When you unzip this file, a `webspace-for-glassfish` directory is created. Throughout the installation instructions, this directory is referred to as *webspace-dir*. You can install and configure Web Space Server from this directory.

Similarly, the directory that contains the unzipped bundle of GlassFish is referred to as *glassfish-root*.

Platform-Specific Path Separators

The instructions and examples in this document use UNIX-style forward slash (/) path separators in file and command names. If Web Space Server and Sun GlassFish Enterprise Server are installed on a Windows system, be sure to use backslashes (\) instead of forward slashes. For example:

- **UNIX systems or Linux systems:** `glassfish/bin/asadmin`
- **Windows systems:** `glassfish\bin\asadmin`

Downloading the Sharepoint Add-On

As with most Web Space Server add-on packages, the Sharepoint Add-On is downloaded using the Sun GlassFish Update Tool.

Note – The version of Update Tool included with some versions of GlassFish Enterprise Server is not compatible with the Web Space Server add-on package repositories. You must use the version of Update Tool that comes with the Web Space Server 10.0 software.

Update Tool also includes a command-line (CLI) Image Packaging System (IPS) utility called `pkg`, which provides the same core functionality as its GUI-based counterpart.

▼ To Download the Sharepoint Add-On Using the GUI-Based Update Tool

If you are running Update Tool for the first time, you will have to install the interface before proceeding.

- 1 **Start Update Tool by changing to the `webspace-dir/bin` directory and typing `updatetool`.**
 - **If the Update Tool main window appears, proceed to Step 2.**
 - **If a prompt appears asking whether to allow the installation of Update Tool to proceed:**
 - a. **Type `y` to proceed.**

The installer downloads and installs Update Tool and then exits. This process takes approximately 10 - 15 minutes.
 - b. **Type the `updatetool` command again to start Update Tool.**

The Update Tool main window appears.

2 Expand Web Space under the Application Images pane, and choose Available Updates.

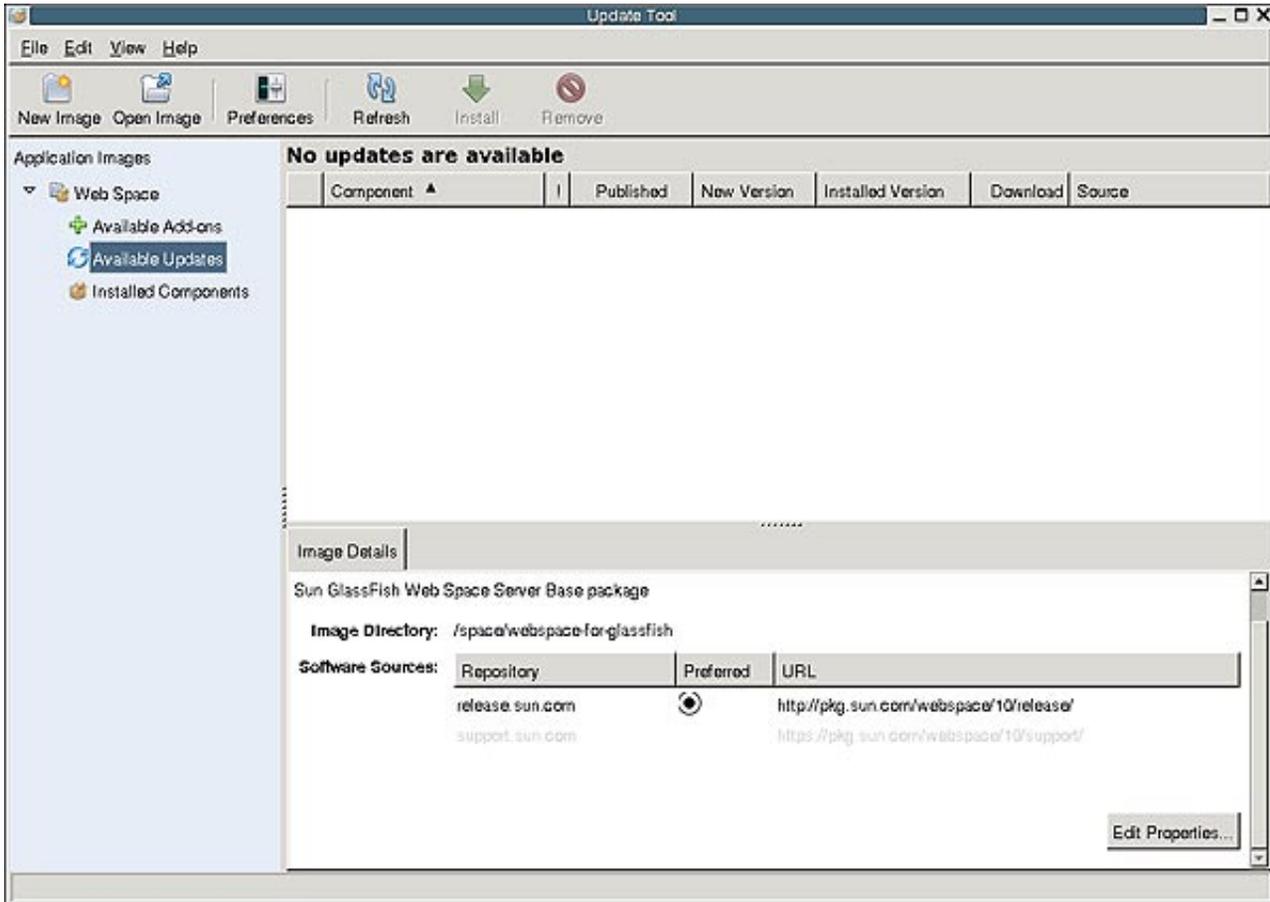


FIGURE 2-1 Update Tool

- 3 Click the Edit Properties button.**
The Image Properties window is displayed.
- 4 Select the option support . sun . com repository, and choose Preferred.**
The Repository Properties window appears.
- 5 Provide the appropriate repository URL provided by Sun support, and click OK.**
The support . sun . com repository is highlighted.

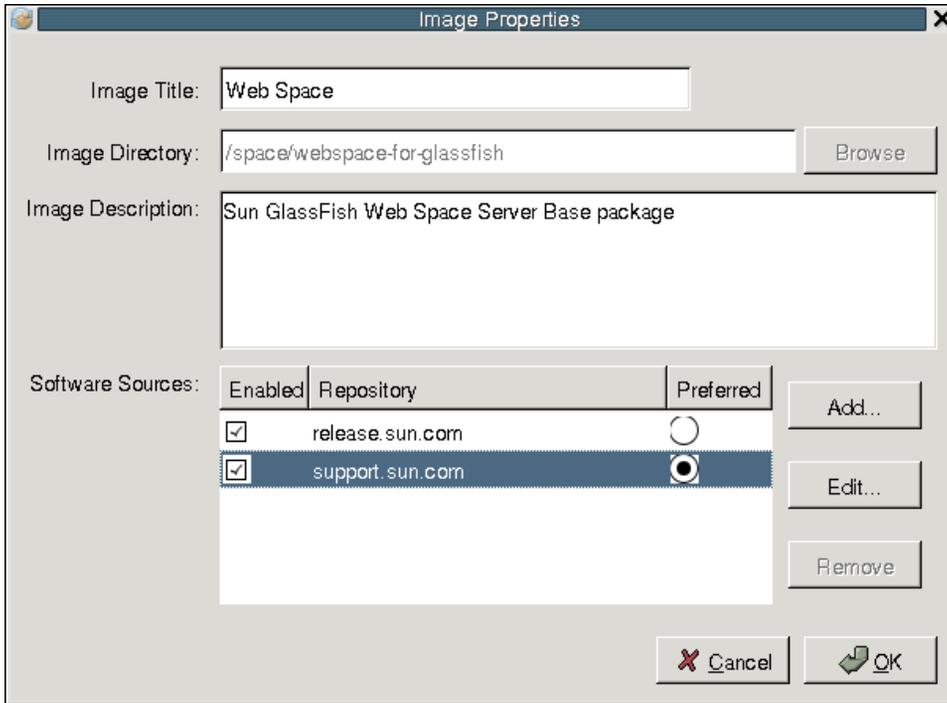


FIGURE 2-2 Selecting the support . sun . com Repository

- 6 **Click OK again to enable the support . sun . com repository.**
The Update Tool main window is displayed.
- 7 **Expand Web Space under the Application Images pane, and choose Available add-ons.**
- 8 **Select the Web Space for GlassFish V2 component, and click Install.**
- 9 **Select the sharepoint component.**

Next Steps Proceed to “[Installing the Sharepoint Add-On](#)” on page 11 for the remaining installation instructions.

▼ To Download the Sharepoint Add-On Using the CLI-Based pkg Tool

- 1 Start Update Tool by changing to the *workspace-dir/bin* directory and typing `updatetool`.
 - If the Update Tool main window appears, proceed to Step 2.
 - If a prompt appears asking whether to allow the installation of Update Tool to proceed:
 - a. Type **y** to proceed.
The installer downloads and installs Update Tool and then exits. This process takes approximately 10 - 15 minutes.
 - b. Type the `updatetool` command again to start Update Tool.
The Update Tool main window appears.
- 2 Change to the *workspace-dir/pkg/bin* directory.
- 3 Type the following command to download the Sharepoint Add-On:
`pkg set-authority -P --enable -O http://pkg.sun.com/workspace/10/ repository-name`
Ask your [SunSolve](#) service representative for the correct repository name to use.
- 4 Type the following commands to install the base Sharepoint Add-On.
`pkg install sharepoint-addon`

Next Steps Proceed to “[Installing the Sharepoint Add-On](#)” on page 11 for the remaining installation instructions.

Installing the Sharepoint Add-On

After using Update Tool to download the Sharepoint Add-On, the sharepoint component is placed in the *workspace-dir/workspace* directory.

▼ To Install the sharepoint Component

- 1 In a terminal window, change to the *webpace-dir/webpace/sharepoint* directory.
- 2 Run the `ant -f install-glassfish.xml` installation script.
Specify the path for the GlassFish directory and the full path for the GlassFish administrator password file when prompted.

```
Buildfile: install-glassfish.xml
```

```
check-ant:
```

```
check-last-install:
```

```
set-last-install:
```

```
show-user-warning:
```

```
[input] JAVA_HOME must be set to JDK 1.5 or greater and java must be available in the execution path. GlassFish mu
```

```
set-glassfish-properties:
```

```
[input] Enter GlassFish Directory [/glassfish-root/glassfish]
```

```
Enter the path for the GlassFish directory
```

```
[input] Enter GlassFish Domain (include full path to domain) [/glassfish-root/glassfish/domains/domain1]
```

```
[input] Enter GlassFish Target [server]
```

```
[input] Enter GlassFish Administrator [admin]
```

```
[input] Enter GlassFish Administrator Password File (include full path to file) [/gfpasswd]
```

```
Enter the full path for the GlassFish administrator password file
```

Sharepoint Integration With Sun GlassFish Web Space Server

Once you install the Sharepoint Add-On users can access Sharepoint services through Web Space Server. Windows Sharepoint Services 3.0 is a built-in component of Windows Server 2003. Microsoft Windows Sharepoint Services 3.0 is a versatile technology that organizations and business units of all sizes can use to increase the efficiency of business processes and improve team productivity. With tools for collaboration that help people stay connected across organizational and geographic boundaries, Windows Sharepoint Services gives people access to information they need.

The following topics are covered in this chapter:

- “Prerequisites for Sharepoint Integration” on page 13
- “Introduction to Sharepoint Integration” on page 14
- “Using the Sharepoint Integration Admin Portlet” on page 17
- “How Does Crawler Work?” on page 23
- “User Mapping Between Web Space Server and Sharepoint Service” on page 24
- “CredentialVault Service” on page 25
- “Using the Sharepoint Search Portlet” on page 26
- “Using the Sharepoint Membership Portlet” on page 26
- “Supported Features of Windows Sharepoint Services 3.0” on page 29

Prerequisites for Sharepoint Integration

The following are the prerequisites for Sharepoint integration:

- Microsoft Windows 2003 Enterprise Server SP2 installed on a host that is configured as a domain controller.
- Microsoft Windows SharePoint Services version 3 installed on the domain controller or on a separate host within the domain.
- Sun GlassFish Web Space Server software installed on a separate host.

You need the following information:

- Name of the Windows domain.
- Hostname of the Windows domain controller and the credentials for Active Directory access.
- Hostname where the SharePoint Services are installed and administrator credentials.
- Sun GlassFish Web Space Server software installed on a separate host with users having the same email address as defined in the Windows domain. The Email address is needed for LDAP authentication. If `ldap://nicp123.wss.test.com:389` is the Base Provider URL, the domain controller in the LDAP directory contains `dc=wss,dc=test,dc=com`.

Introduction to Sharepoint Integration

Windows Sharepoint Services 3.0 is freely available for Windows Server 2003, so any machine running Windows Server 2003 can download and install Sharepoint Service 3.0. Web Space Server provides a set of services similar to Sharepoint, such as Calendar, Discussion, Tasks, Announcement, Wiki and Blog. For the users who want to keep existing services/data, the solution we provide here is to allow users to access Sharepoint services through Web Space Server. Sharepoint integration is provided by the Sharepoint Add-on, which can be installed on Web Space Server.

The add-on itself is in a single war file, so the installation is simple. The deployed war file includes the following components:

TABLE 3-1 Components in the WAR file for Sharepoint Add-On

Add-On Component	Description
Admin portlet	Configures/controls user mapping and crawler.
Sharepoint Crawler	Aggregates sharepoint sites data into Web Space Server search index.
User Mapping	Maps a portal user to a sharepoint services active directory user.
Search portlet	Provides a search user interface for indexed Sharepoint data.
Membership portlet	Uses the metadata of indexed sites and user mapping to present expandable list of sites (which can be added as WSS List portlets) to portal users who has membership (with contribute privilege).

TABLE 3-1 Components in the WAR file for Sharepoint Add-On *(Continued)*

WSS List portlet	Portlet to access a Sharepoint List. Multiple portlets can be added via the UI in membership portlet on a selected Sharepoint List, such as Calendar, Document Library.
------------------	---

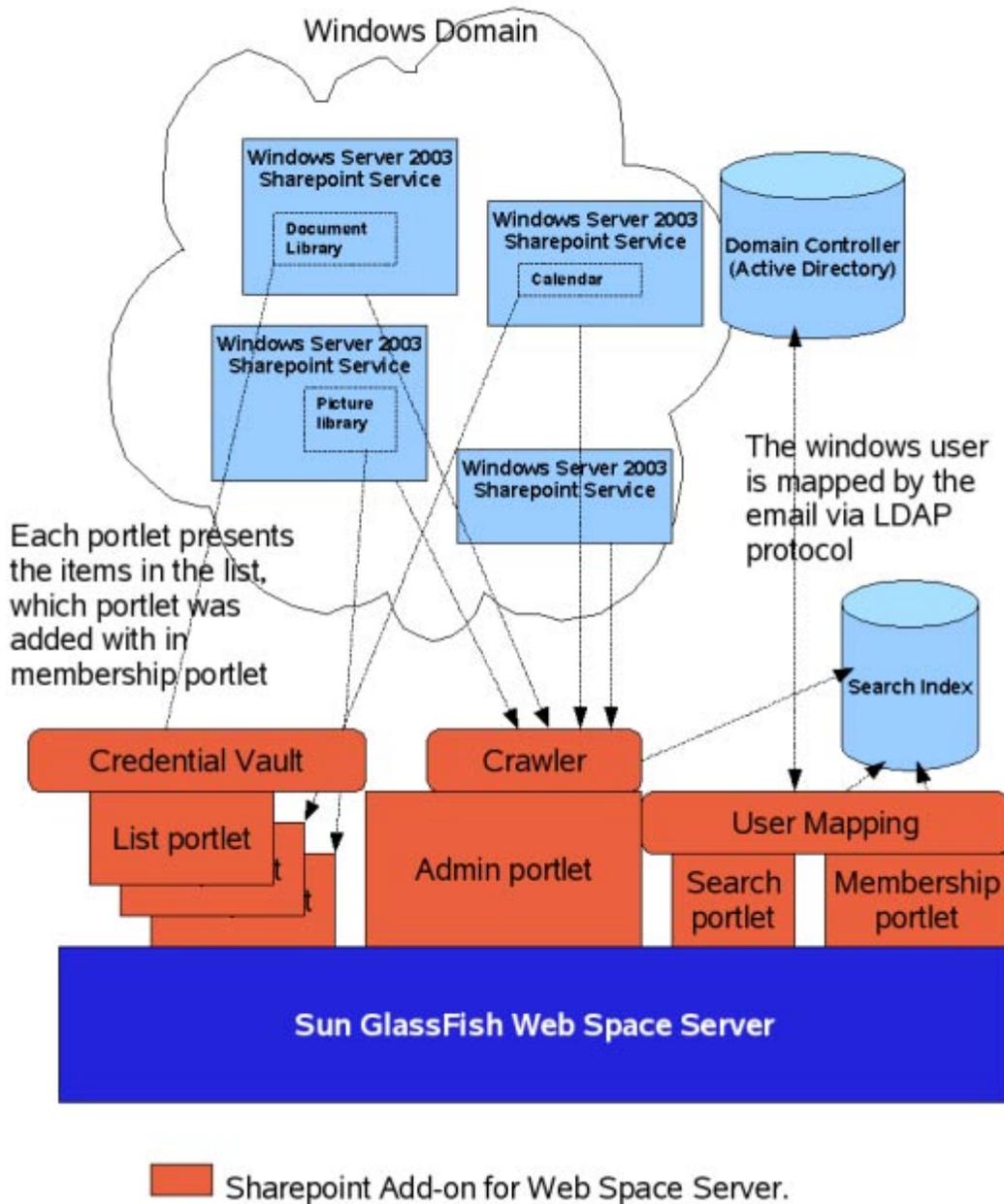


FIGURE 3-1 Sharepoint integration architecture
 16 Sun GlassFish Web Space Server 10.0 Microsoft Sharepoint Add-On Guide • July 2009

Using the Sharepoint Integration Admin Portlet

The Sharepoint Integration Admin portlet provides Manage Sites, Control Crawler, and User Mapping tabs.

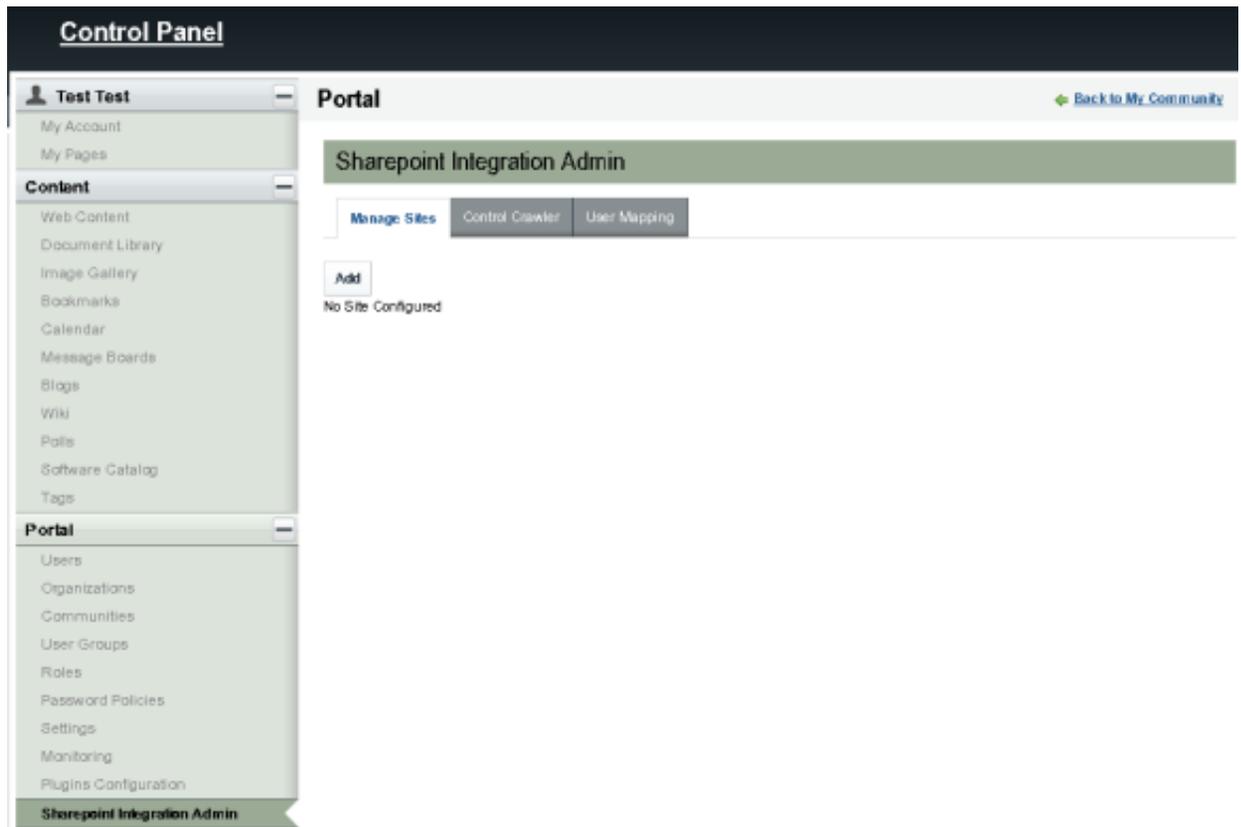


FIGURE 3-2 Sharepoint Integration Admin Portlet

Manage Sites Tab

Manage Sites tab enables you to add/modify/delete sharepoint sites. You need to authenticate the site that you add by providing its administrator user name and password. You can enable or disable the site for crawling.

▼ To Add a Sharepoint Site

- 1 Log in to Web Space Server as the admin user.
- 2 From the Welcome menu, navigate to Control Panel → Sharepoint Integration Admin under Portal category.
- 3 Click the Add button on the Manage Sites tab.
- 4 In the Sharepoint site window, type the URL of the Sharepoint site, and the user name and password of the Active Directory administrator.

This example illustrates adding a Sharepoint site named `http://nicp123.wss.test.com`. Administrator is the username of the Active Directory administrator.

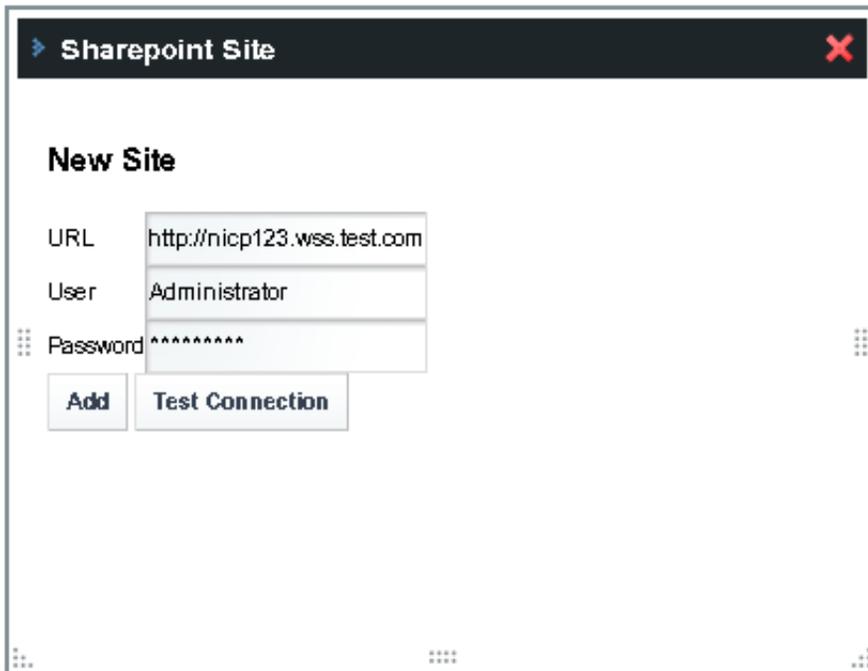


FIGURE 3-3 Adding a Sharepoint Site

- 5 Click the Test Connection button.
 - If OK appears next to the button, the site has been authenticated successfully.
 - If Failed appears next to the button, the authentication has failed.

- 6 When a site is added successfully, its URL and status are displayed in the Manage Sites tab.**
The site is Enabled by default. You can switch the status from Enabled to Disabled and back again. The Actions button next to a site name enables you to edit or delete the site.

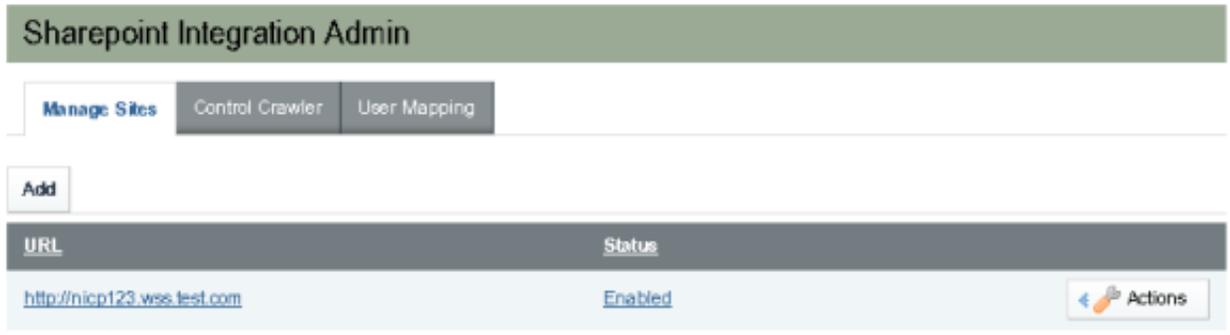


FIGURE 3-4 Sharepoint Site Added Successfully

Control Crawler Tab

You can start or stop the crawler from this tab. You can start the crawler after you add a Sharepoint site. The crawler crawls the information available on the Sharepoint site added from the Manage Sites tab in the Sharepoint Integration Admin portlet.

Web Space Server uses the Sharepoint search crawler to examine Sharepoint site URLs and associated network resources such as Sharepoint lists (like calendars and alerts), so that they can be indexed in a site search database and a content search database used by the membership and the search portlets.

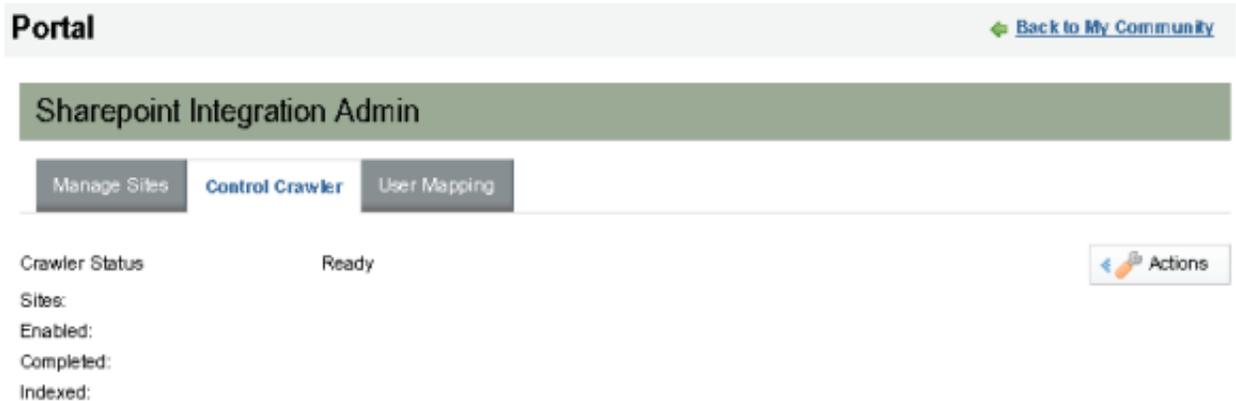


FIGURE 3-5 Control Crawler Tab

The Ready status means that the crawler has not started. To start crawling Sharepoint sites, click Start Crawler from the Actions menu. After the crawling is complete, the Crawler status is Stopped.

It also displays the other information related to crawling status, including the number of sites crawled, the number of sites which are enabled for crawling, and the number of sites for which the crawling is completed.

Indexed displays the number of metadata items collected. When a new metadata item is added, all the metadata is automatically reindexed. But if changes are made only in the Active Directory, the crawler might not reindex the metadata. If this situations occurs, choose Clean Running Status, and Remove Index from the Actions menu. Then restart the crawler by selecting Start Crawler.

The screenshot shows the 'Sharepoint Integration Admin' interface. At the top, there is a 'Portal' header with a 'Back to My Community' link. Below this is a green bar with the title 'Sharepoint Integration Admin'. Three tabs are visible: 'Manage Sites', 'Control Crawler' (which is selected and highlighted in blue), and 'User Mapping'. Under the 'Control Crawler' tab, the 'Crawler Status' is 'Stopped'. A table displays the following statistics: Sites: 1, Enabled: 1, Completed: 1, and Indexed: 89. On the right side of the table, there is an 'Actions' button with a gear icon.

Crawler Status	Stopped
Sites:	1
Enabled:	1
Completed:	1
Indexed:	89

FIGURE 3-6 Crawling a Sharepoint Site

Choosing Actions Menu Options

The Actions menu has Start Crawler, Clean Running Status, and Remove Index options.

Start Crawler	When you select Start Crawler, the crawler starts indexing all the metadata. The Crawler Status changes from <i>Ready to Running</i> , and when the crawling is completed, it changes to <i>Stopped</i> .
Clean Running Status	The "Status" records the last-modified of a crawled object (site, list or item), so the next crawl will only update the index of those items changed since last crawl. When need to crawl all objects disregarding the time stamp, then we need to clean the status (database). Running <i>Clean Running Status</i> cleans the status.
Remove Index	After cleaning the status, the crawler runs just as the very first time. If you want to re-index all the metadata, you need to select the Clean Running Status and Remove Index options consequently. If the Sharepoint site has no changes, you will see exactly the same number of indexed items.

User Mapping Tab

The User Mapping tab enables you to map the users on the Sharepoint site with the users on Web Space Server. This page allows you to define Active Directory authentication for the users defined in the Sharepoint Active Directory. An authentication search filter is applied to map users in Web Space Server with the users in the Sharepoint Active Directory. For example, if `mail=@email_address@` is the authentication search filter, all users who have a common email address in both Sharepoint and Web Space Server are mapped together.

Portal

Sharepoint Integration Admin

Manage Sites

Control Crawler

User Mapping

Base Provider URL

ldap://nicp123.wss.test.com:389

Base DN

dc=wss,dc=test,dc=com

Principal

WSS\Administrator

Credentials

Authentication Search Filter

mail=@email_address@

Test LDAP Connection

Save

FIGURE 3-7 User Mapping Tab

Defining Active Directory Authentication

You need to provide information in the following fields in the *User Mapping* tab to define Active Directory authentication.

TABLE 3-2 Defining Active Directory Authentication

Attribute	Value	Description
Base Provider URL	<i>ldap://host:389</i> For example, ldap://nicp123.wss.test.com:389	Active directory URL of domain controller

TABLE 3-2 Defining Active Directory Authentication (Continued)

Base DN	<i>domain_name</i>	Base DN of Active Directory domain (such as <code>dc=wss,dc=test,dc=com</code>) This specify the initial search context for users. Specifying the base DN is optional.
Principal	<i>admin_name</i> with Domain For example, <code>WSS/Administrator</code> , where <code>WSS</code> is the domain controller domain name in <code>wss.test.com</code>	Active directory administrator user name
Credentials	<i>admin_password</i>	Active directory administrator password

After you define the Active Directory Authentication, click the Test LDAP connection button. If the connection is authenticated, the Web Space has successfully connected to the Active Directory servermessage appears.

Defining the Authentication Search Filter

If `@email_address@` is the search token during runtime, the system looks for the users in the Active Directory with the same email address as in their Web Space Server user account, and such users are authenticated.

In this example, type `mail=@email_address@` as the Authentication Search Filter. LDAP search authentication requires selecting `mail=@email_address@` as the Authentication Search Filter.

The Authentication Search Filter can also use other tokens, such as `@company_id@`, `@screen_name@`, and `@user_id@`.

How Does Crawler Work?

Just like a web crawler, a set of site collection URLs are defined through the admin portlet as starting points. The crawler, however, is using the web service provided in Sharepoint service for retrieving data. It keeps track of timestamps of each site, list and item to avoid unnecessary data retrieving and indexing. The data collected are indexed into Web Space Server as search index. ACL and Membership are part of metadada indexed, so it is import that all Sharepoint services should run in a single windows domain; the same domain defined in the user mapping described in the next section.

User Mapping Between Web Space Server and Sharepoint Service

Microsoft Windows uses its domain controller (Active Directory) to manage user identity, and most of the applications from Microsoft and many other third party vendors use Active Directory by default. For example, Sharepoint uses the authentication model built-in with IIS, for user authentication and permission. In a out-of-box environment, there is no form based authentication (by session cookie) for a web application, so any client application communicating with the web server must use either Basic Authentication (if enabled in IIS), NTLM or Kerberos.

Web Space Server has the capability of using the same Active Directory for authentication, which can be configured via control panel of administrator. It can also import Active Directory users into Web Space Server user database. However, in order to loosen the dependency on this configuration, Sharepoint add-on has its own Active Directory configuration for user mapping.

The mapping is to retrieve a user name in windows domain for a given portal user with matching email by default. Consider that an Active Directory lookup by email id is defined in the user attribute of Web Space Server. If the email id is found, the user name will be available in DOMAIN\USRENAME format. This user name is used to perform secure search on indexed Sharepoint data in both **Membership portlet** and **Search portlet**.

▼ To Add a User on Active Directory to Web Space Server

Consider that Active Directory on the Sharepoint site (in this example, nicp123.wss.test.com) has a user named Paul with the email ID paul@wss.test.com. To add the user to Web Space Server, you need to create a new user on Web Space Server with paul@wss.test.com as the email ID. Then you need to login to Web Space Server, with paul@wss.test.com as the username, and add the Sharepoint Membership Portlet to your page. The Sharepoint Membership Portlet displays the Sharepoint sites for which the user is registered.

Note – When an email ID is defined as the Authentication Search Filter (that is when the Authentication Search Filter is mail=@email_address@), only the email ID of the user registered on Web Space Server and the email ID of the user in the Active Directory on the Sharepoint site need to match. Any other user information and the password are not required to be identical.

- 1 **Log in to Web Space Server as the admin user.**
- 2 **Navigate to Control Panel → Users under Portal category.**
- 3 **Click Add.**

4 Specify the user details.

In this example, type paul@wss.test.com as the email ID.

5 Click Save.**6 Select Password under User Information.****7 Specify a password and click Save.**

CredentialVault Service

Sharepoint service is a web application running on Microsoft Internet Information Services (IIS), and it suites the authentication model within IIS. There are different ways of authentication on IIS, but out-of-box, it supports Basic Authentication (if enabled in IIS), NTLM and Kerberos if enabled. While talking to Sharepoint service in WSS List portlet via its web service interface, it needs to be able to handle those authentication schema in a http connection as well.

The CredentialVault service is used to store user credentials (such as user name and password) for the Sharepoint sites where you have an account. You can use the CredentialVault service to define the scope (realm) that user credentials are accepted (such as a Sharepoint site URL). For example, when you specify user credentials for the site `http://nicp123.wss.test.com`, it defines the realm for all the services listed under the site, while all added WSS List portlets within the site use the stored credential for communicating with the web service.

If you add a Sharepoint Service (List) as a portlet when the credential is not set in the site url, or if the credentials are wrongly set, the portlet do not display any of the resources, and displays a message saying *The credential is not accepted by the site. Please reset it in membership portlet.* The following is an example of a Sharepoint Service added as a portlet, when CredentialVault is set improperly:



FIGURE 3-8 The message displayed on a WSS List portlet when the CredentialVault is not set

Using the Sharepoint Search Portlet

The Sharepoint user on Web Space Server can use the Sharepoint Search portlet to search the indexed Sharepoint data as the windows user he/she is mapped. The search query syntax is based on the underlying search engine. Lucene is the default search engine on Web Space Server, and the Sharepoint Search portlet uses the [Lucene search syntax](#) by default.

▼ To Use the Sharepoint Search Portlet

- 1 Log in to Web Space Server as the user mapped to the Sharepoint Active Directory.**
In this example, log in with paul@wss.test.com as the user name.
- 2 From the Welcome menu, navigate to My Places → My Community → Private Pages.**
- 3 Choose Add Application from the Welcome menu, and add the Sharepoint Search portlet to the page.**
- 4 Specify a search key, and click Search.**
All the resources associated with the search key are displayed.

Using the Sharepoint Membership Portlet

After creating a Web Space Server user with an email id which is same as the email id of the user in the Active Directory on a Sharepoint site, login to Web Space Server as the new user, and add the Sharepoint Membership portlet to a page. The Sharepoint Membership portlet uses the metadata of indexed sites and user mapping to present expandable list of sites (which can be added as WSS List portlets) to portal users who has membership (with contribute privilege).

▼ To Use the Sharepoint Membership Portlet

- 1 Log in to Web Space Server as the user mapped to Sharepoint Active Directory.**
In this example login with paul@wss.test.com as the user name.
- 2 From the Welcome menu, navigate to My Places → My Community → Private Pages.**
- 3 Select Add Page to add a new page, specify a name for the Page, and click Save.**
In this example, name the page Sharepoint View.

- 4 **Choose Add Application from the Welcome menu, and add the Sharepoint Membership portlet to the page.**

The page lists the mapped Sharepoint site, and all the subdomains in the mapped Sharepoint site. In this example, Team Site is the Sharepoint site, and PSQA Team Site is a subdomain of the Sharepoint site.

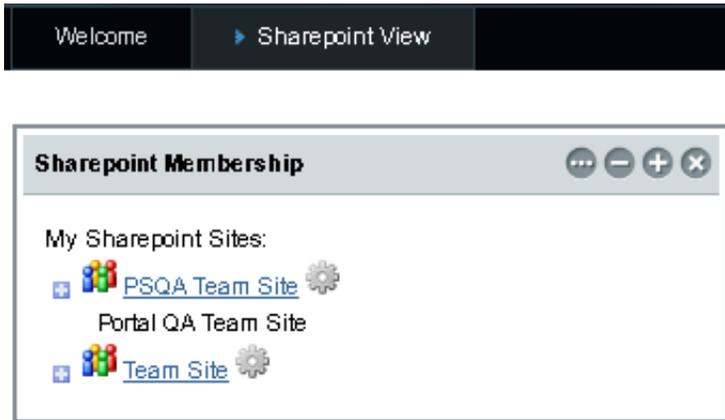


FIGURE 3-9 Sharepoint Membership Portlet

You need to authenticate a Sharepoint site before you can access it.

- 5 **Click the “wheel” icon next to each Sharepoint site.**
The Add Credentials window appears.



FIGURE 3-10 Authenticating a Sharepoint Site

6 Specify the credentials for the Sharepoint site, and click Save.

This uses the CredentialVault Service. See “[CredentialVault Service](#)” on page 25 for more details.

In case the user typed the credentials wrongly in *Add Credentials*, he/she can modify the value by clicking the "Wheel" icon (Credentials) to update with correct values.

7 Expand a Sharepoint site to view all the Sharepoint Services (list) associated with it.

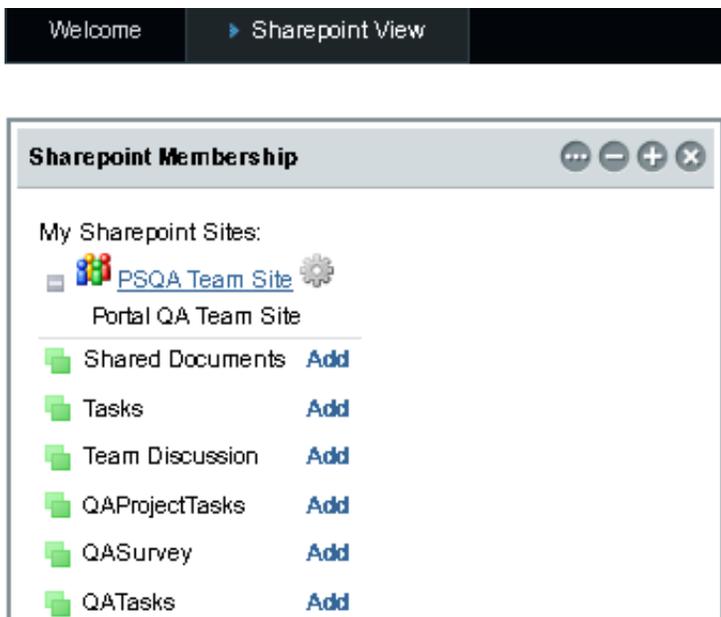


FIGURE 3-11 Sharepoint Services Associated With a Sharepoint Site

Web Space Server presents the Sharepoint services associated with a Sharepoint site as WSS List portlets. You can add a WSS List portlet to your page to access the corresponding Sharepoint service. These WSS List portlets form the interface for Sharepoint services on Web Space Server.

8 Click the Add button next to a selected Sharepoint service.

In this example, click the Add button next to Links.

The Sharepoint service is added to your page as a WSS List portlet.

9 Expand the portlet to view the associated resources.

In this example, the Links portlet is added to your page.

Type	Edit	URL	Notes	Action
		http://docs.sun.com/pub/doc/col11932_2	Sun GlassFish Web Space Server 10.0 Documentation Set	delete
		http://docs.sun.com/pub/doc/col11932_1	Sun GlassFish Web Space Server 10.0 Add-On Collection	delete

FIGURE 3-12 A Sharepoint Service as a Portlet on Web Space Server

This WSS List portlet lists all the links that are currently available. You can add or remove a link. In the same way, any Sharepoint service listed on Web Space Server as a WSS List portlet, enables you to view and access existing resources, and to make changes to the resources. You can set the access configuration of a portlet from the control menu of the portlet.

Supported Features of Windows Sharepoint Services 3.0

Sun GlassFish Web Space Server integrates with Windows SharePoint Services (WSS) 3.0. This section lists the WSS 3.0 features that are supported and not supported in Web Space Server.

- Add, Delete, and Display for Lists, Document/Forms/Picture Libraries, Meeting Sites, and Meeting Items are the functions that are supported. However, the Edit feature is not supported for all Items.
- The supported Lists are Announcements, Calendar, Links, Contacts, Issues, Tasks, Discussions, Surveys, and Custom Lists. The unsupported Lists are Alerts, Wikis, and Blogs.
- The supported Libraries are Document, Form, Picture, and Shared Documents.
- The supported Meeting Items are Objectives, Agenda, Attendees, Directions, Things to Bring, Discussions, Document Library, and Picture Library. The Pages (Multi-Page Meeting) is not supported.
- Views are supported. However, Windows based views (for example, SlideShow View, Explorer View) and Calculation based views (for example, Count, Total, Sub-Total) are not supported. Moreover, Views are not supported for Document, Forms, and Picture Libraries functions.
- Workspaces and Related Issues are not supported, while you add Items to the List.
- Discussions - Threading Field is not supported.
- Adding Recurrence Event is supported with a workaround.
- Adding metadata during Picture Upload for Picture Libraries is not supported.

