



PNMsoft Knowledge Base
Sequence User Guides
Remote Web Parts

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Gold Application Development

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General Document Information

Purpose

The purpose of this document is to describe how to install and use the Remote Web Parts feature. The purpose of this feature is to add Flowtime Web Parts to a SharePoint environment that does not have Sequence installed on it.

Prerequisites

- You should be a SharePoint Administrator.
- You need the URL of the Flowtime environment.

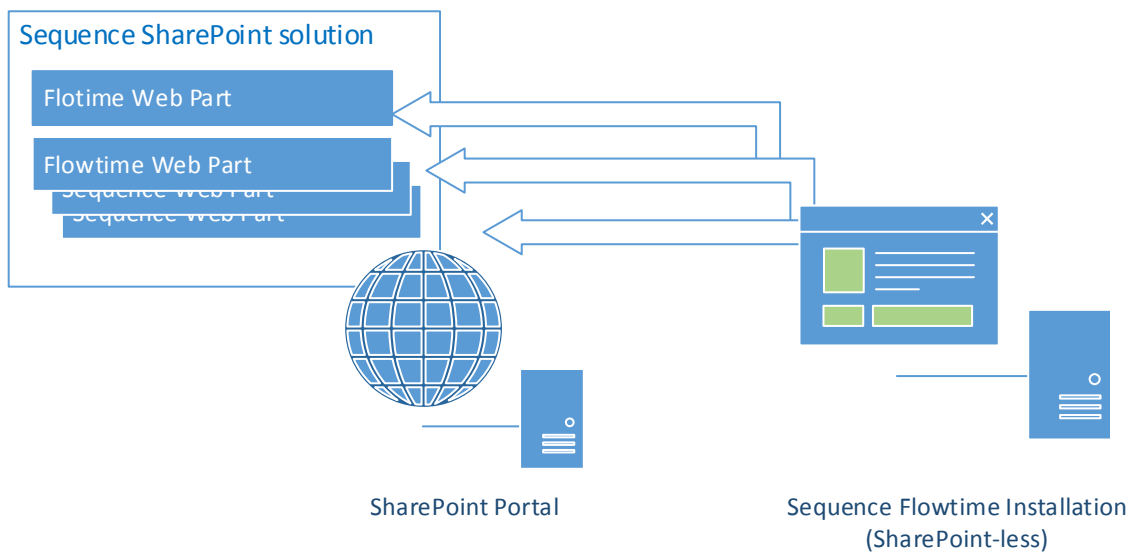
Introduction

Sequence's runtime environment, Flowtime, is by default installed on a server with SharePoint on it. By default, Flowtime runs within that SharePoint environment, and its web parts and data are exposed there.

However, if you are not able to install software on your SharePoint farm, or if you have many web front servers that need to display Sequence data but you wish to avoid repeated installation of Sequence on each of them, you can use the Remote Web Parts feature.

This feature enables you to display Flowtime data on a server which has SharePoint installed, but not Sequence.

The topology is as follows:



Remote Web Parts Topology

Installation

Pre-requisites

- You must have SharePoint 2013 installed on one or more servers.
- You must have a SharePoint-less installation of Sequence on a server in the same domain as your SharePoint server(s).
- You must have farm administrator rights.

Installation Steps

The major steps of the installation are:

1. Adding the solution to SharePoint.
2. Configuring and Deploying the solution to web application(s).
3. Activating the feature on the SharePoint site.

Adding the Solution to SharePoint

1. Obtain the solution file:

PNMsoft.Sequence.Flowtime.SharePoint.Remote.wsp

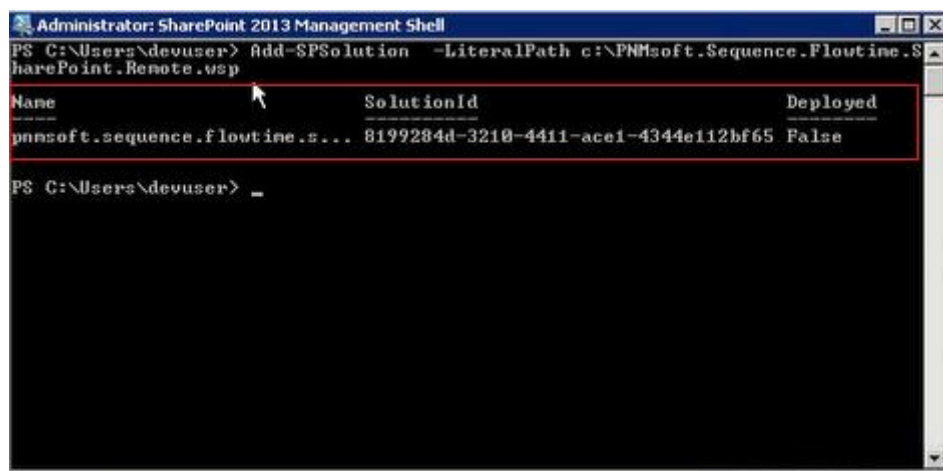
This file is available from the [Downloads page](#) of the PNMsoft Knowledge Centre in the installation folder of each release. Please ask PNMsoft Support if you cannot access this file.

2. Download the .wsp file to the server on which SharePoint is installed (e.g. to the C:\ drive).
3. Open SharePoint Management Shell and run the following command:

```
Add-SPSolution -LiteralPath C:\PNMsoft.Sequence.Flowtime.SharePoint.Remote.wsp
```

Note: Replace the path above with the actual path to the file. The path above is just an example.

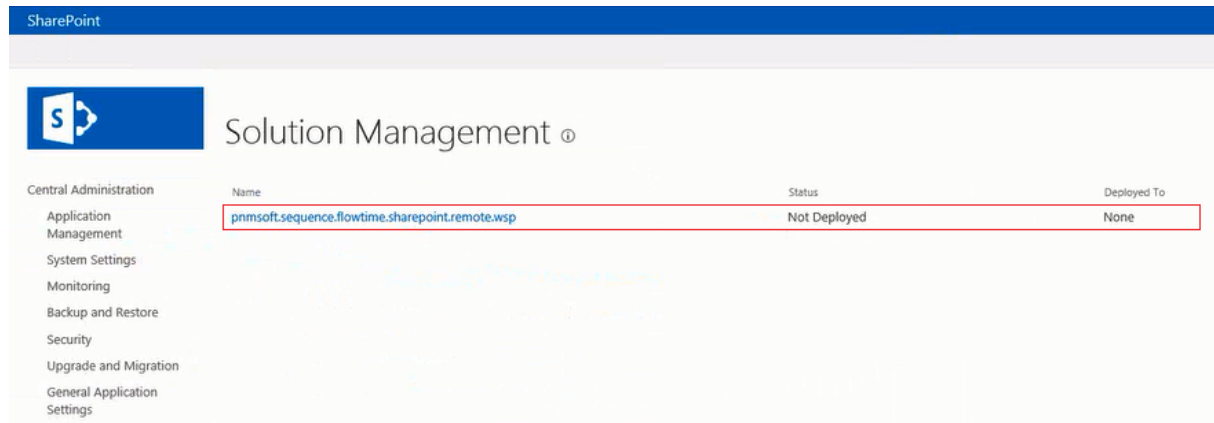
The following message is displayed:



SharePoint Management Shell

Configuring and Deploying the Solution

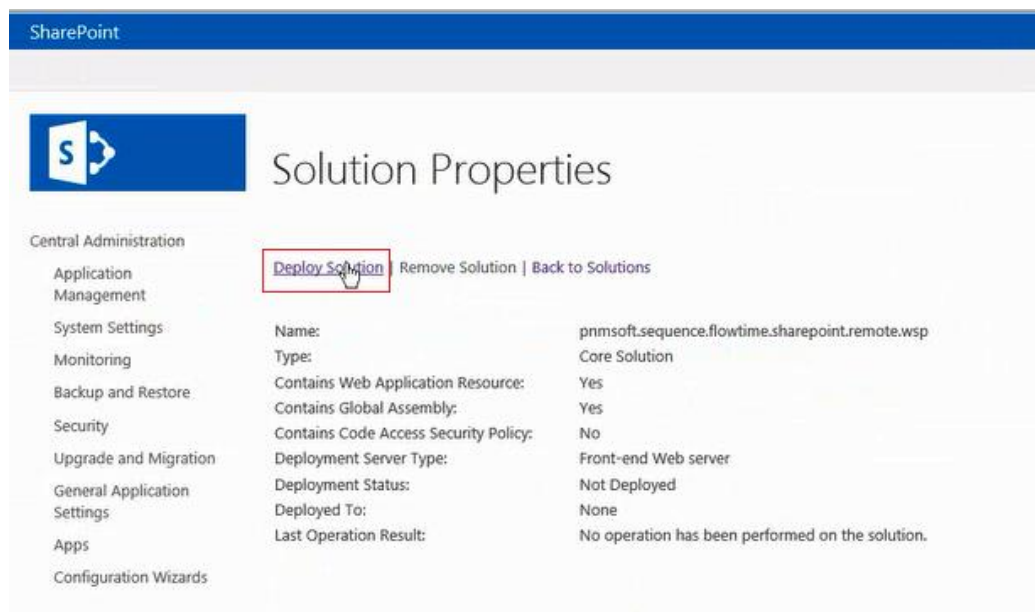
- Open SharePoint Central Administration.
- Select **System Settings > Manage farm solutions**. You should see the new solution listed as added but not deployed, as follows:



Solution Management

- Click the solution **pnmsoft.sequence.flowtime.sharepoint.remote.wsp** in the list.


The *Solution Properties* screen is displayed.



Solution Properties

- Click **Deploy Solution**. The *Deploy Solution* screen is displayed.

SharePoint



Deploy Solution ⓘ

Central Administration

- Application Management
- System Settings
- Monitoring
- Backup and Restore
- Security
- Upgrade and Migration
- General Application Settings
- Apps
- Configuration Wizards

Solution Information
Information on the solution you have chosen to deploy.

Name: pnmssoft.sequence.flowtime.sharepoint.remote.wsp

Locale: 0

Deployed To: None

Deployment Status: Not Deployed

Deploy When?
A timer job is created to deploy this solution. Please specify the time at which you want this solution to be deployed.

Choose when to deploy the solution:

☒ Now

☐ At a specified time:

11/10/2014 4 PM 00

Deploy To?
The solution contains Web application scoped resources and should be deployed to specific Web applications. Please choose the Web application where you want the solution to be deployed.

Choose a Web application to deploy this solution:

All content Web applications

http://qadev13:8080/

http://qadev13:8081/


http://qadev13:13023/

will place assemblies in the global assembly cache. This will grant the solution assemblies full trust. Do not proceed unless you trust the solution provider.

Deploy Solution

- (Optional) In the **Deploy When?** section, select the time at which to deploy the solution (now or at a specified time).
- From the **Deploy To?** dropdown list, select the web application to which to deploy the solution. This should be the SharePoint web application in which you want to host the Flowtime web parts.
- Click **OK**. The *Solution Management* screen appears, showing that the solution has been deployed to the web application you selected (this may take a few minutes).

SharePoint



Solution Management ⓘ

Central Administration

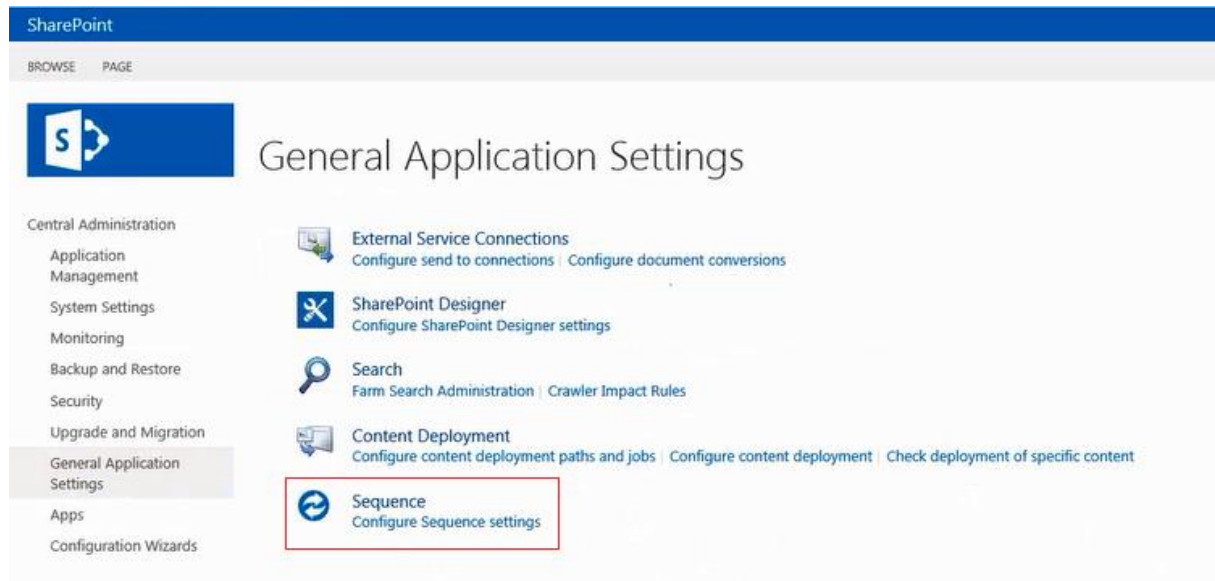
- Application Management
- System Settings
- Monitoring
- Backup and Restore
- Security
- Upgrade and Migration
- General Application Settings
- Apps
- Configuration Wizards

Name	Status	Deployed To
pnmssoft.sequence.flowtime.sharepoint.remote.wsp	Deployed	http://qadev13:8080/

Solution Management

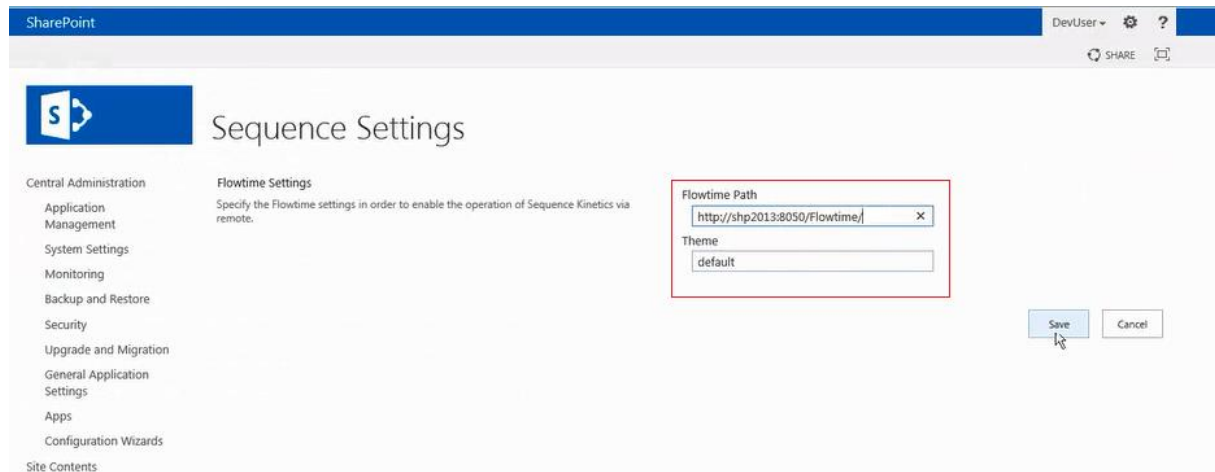
- (Optional) You can deploy the solution to additional web applications by repeating steps 6 through 10.

12. Select **General Application Settings**. You should now see a new section entitled 'Sequence'.



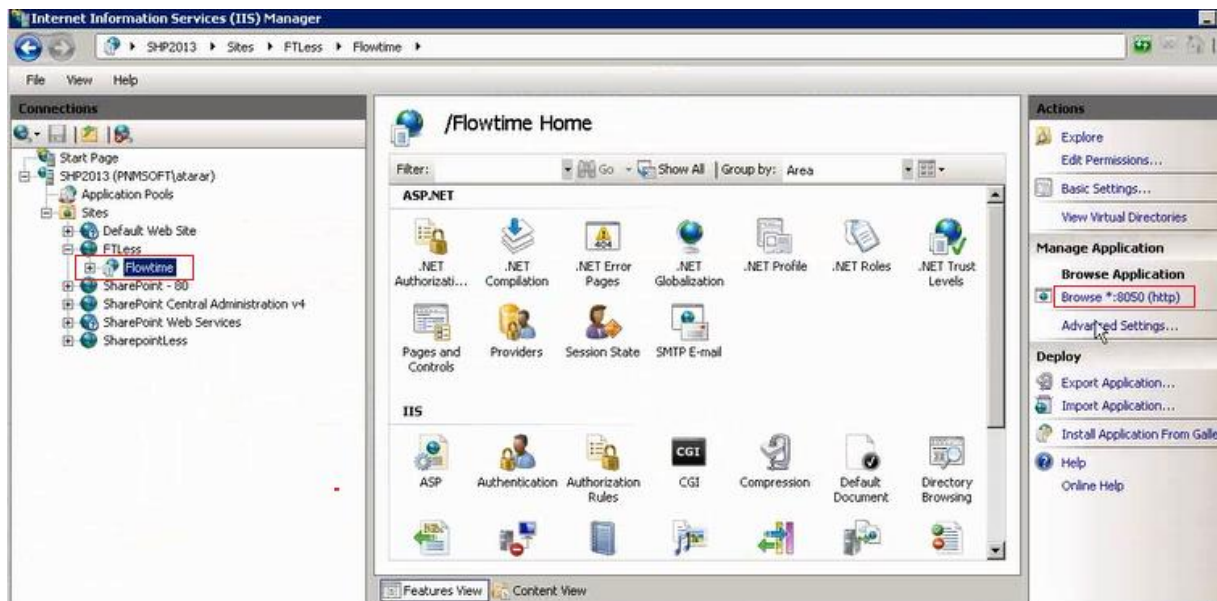
General Application Settings

13. Click **Configure Sequence settings**. The *Sequence Settings* screen is displayed.



Sequence Settings

14. Obtain the path to the Flowtime site on the server on which Sequence is installed. You can find this path in the server's IIS.



IIS – Obtaining the Flowtime URL

15. In the *Sequence Settings* screen (see the previous page), enter the URL in the **Flowtime Path** field.
16. (Optional) Enter a different theme in the **Theme** field.
17. Click **Save**.
18. Open SharePoint Management Shell (on a server in your farm), and run the following commands:

```
$contentService =  
[Microsoft.SharePoint.Administration.SPWebService]::ContentService  
  
$contentService.RemoteAdministratorAccessDenied = $false  
  
$contentService.Update()
```

Perform iisreset.

This step is necessary to enable a few minor changes to be made to your web application's web.config file in the Activation step (for the exact changes, see Appendix A: web.config Changes). These changes are necessary to enable Sequence Analytics Dashboards to function correctly. The above commands enable these changes to be made automatically from outside the SharePoint Central Administration. Alternatively, you can make these changes manually. You can also reverse this access setting after installation, by setting contentService.RemoteAdministratorAccessDenied back to true.



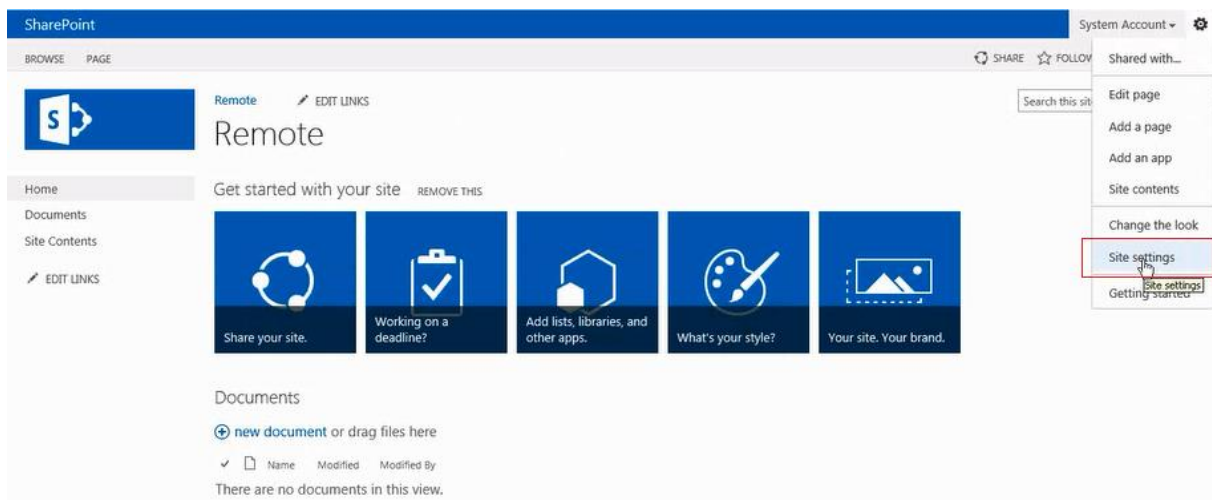
```
Administrator: SharePoint 2013 Management Shell
PS C:\Users\devuser> $contentService = [Microsoft.SharePoint.Administration.SPWebService]::ContentService
PS C:\Users\devuser> $contentService.RemoteAdministratorAccessDenied = $false
PS C:\Users\devuser> $contentService.Update()
PS C:\Users\devuser> iisreset

Attempting stop...
Internet services successfully stopped
Attempting start...
Internet services successfully restarted
PS C:\Users\devuser> _
```

SharePoint Management Shell

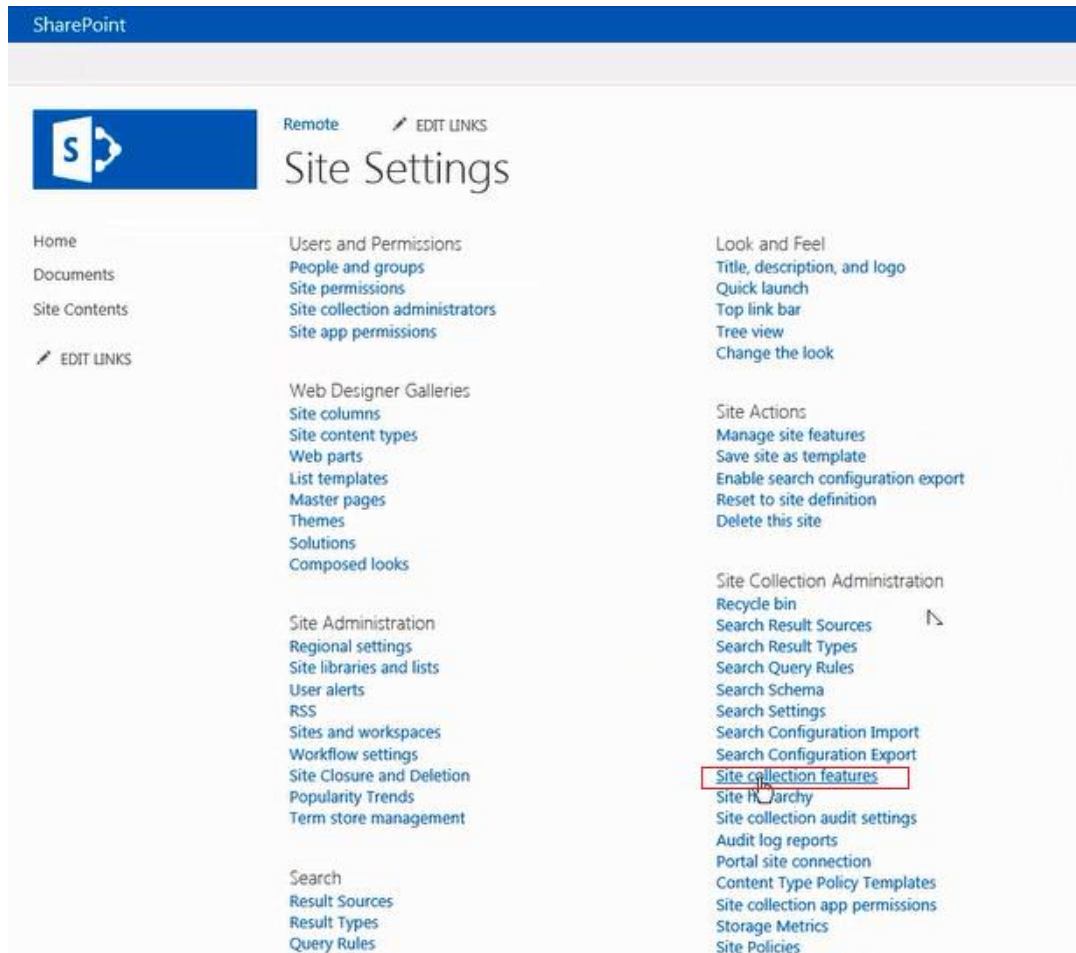
Activating the Feature on the SharePoint Site

19. Open the SharePoint site, and select **Site Settings**.



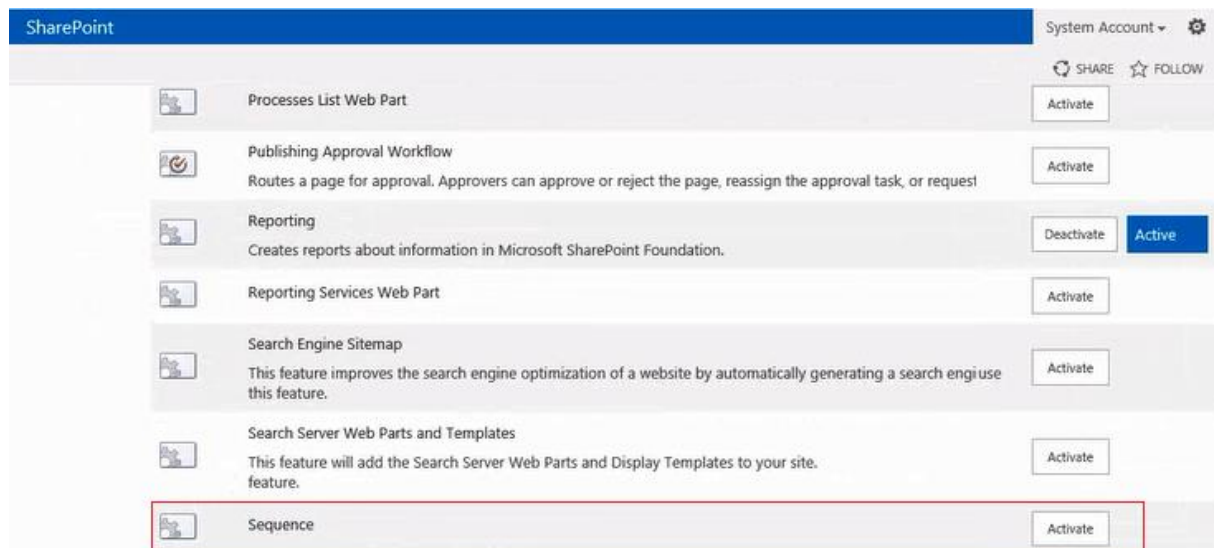
SharePoint Site

20. From the *Site Settings* screen, select **Site Collection features**.



Site Settings

21. In the *Site Collection Features* screen, on the row which says 'Sequence', click **Activate**.



Site Collection Features

After a few moments, the Sequence feature should now appear as Active.

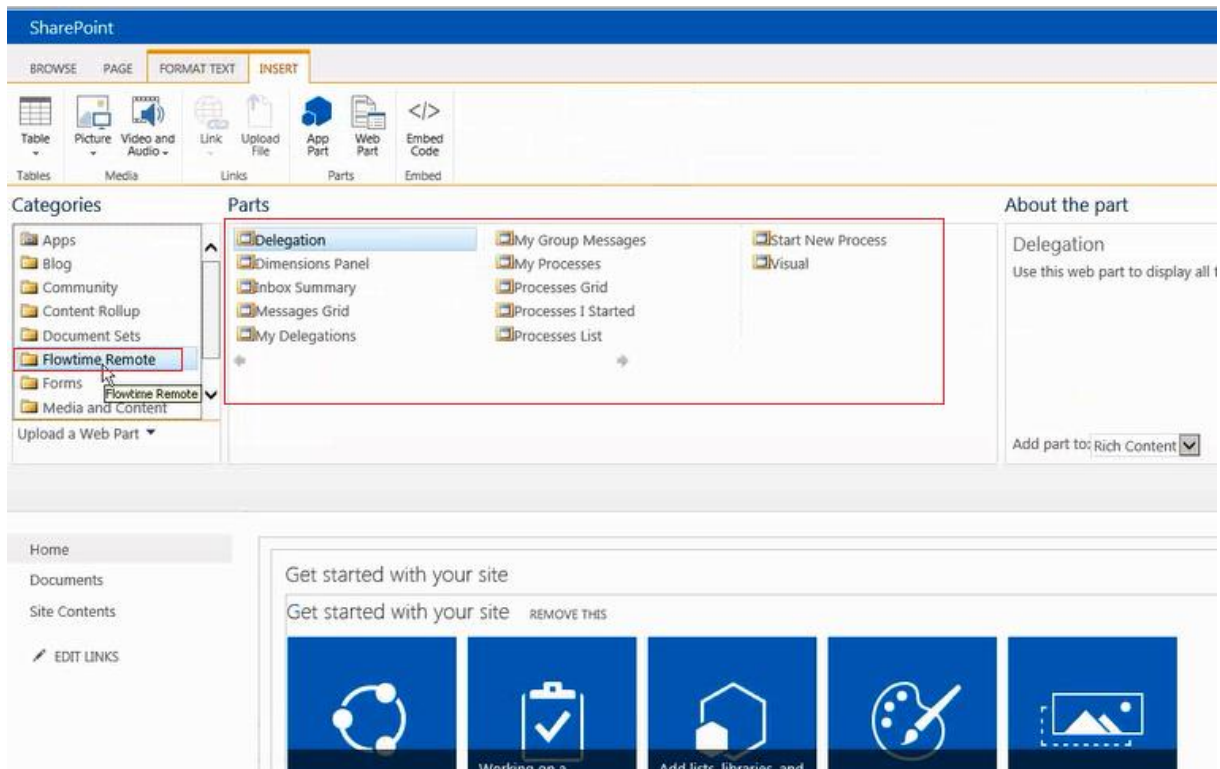
Note: This can be done using the SharePoint Management Shell as well, if you are familiar with the syntax and commands.

Working with Remote Web Parts

After you have activated the feature, you can now add Flowtime web parts to pages of your SharePoint site. Keep in mind that while a default SharePoint Flowtime installation includes a set of web parts already assembled and formatted on a homepage, in this case, you can choose to set up web parts in a way that makes senses for your solution.

To add a Flowtime web part to a page:

1. Edit the page.
2. Select Insert > Web Part.
3. Select a Flowtime web part from the **Flowtime Remote** section.



Flowtime Remote Web Parts

4. Click **Add**, and the web part you have selected is added to your page.

The screenshot shows a SharePoint page with the following components:

- Ribbon:** Includes tabs for BROWSE, PAGE, FORMAT TEXT, and INSERT. The FORMAT TEXT tab is active, showing options for Save, Check Out, Paste, Copy, Undo, Font (Bold, Italic, Underline, Color, Size), Paragraph (Bulleted List, Numbered List, Indent, Outdent), Styles (Paragraph, Heading 1, Heading 2, Heading 3, Heading 4), Text Layout, and Edit Source.
- Navigation Pane:** Shows links for Home, Documents, Site Contents, and EDIT LINKS.
- Get started with your site:** A section with five tiles: 'Share your site.', 'Working on a deadline?', 'Add lists, libraries, and other apps.', 'What's your style?', and 'Your site. Your brand.'
- Inbox Summary:** A summary of inbox items with three cards: '2 (2) Inbox Items', '0 Tasks Due Today', and '1 Overdue Tasks'.
- Messages Grid:** A table titled 'Inbox: My Open Messages ...' with columns: From, Workflow Name, Subject, Received, Due Date, Reminder Date, CCN, and WF State.

	From	Workflow Name	Subject	Received	Due Date	Reminder Date	CCN	WF State
<input type="checkbox"/>	Dev User	Dashboard	about workflow : dashboard Instance #7168	10/29/2014				
<input type="checkbox"/>	Stas Naftulin	Parent Flow	Test New Task with Subflow	6/18/2014	6/19/2014			

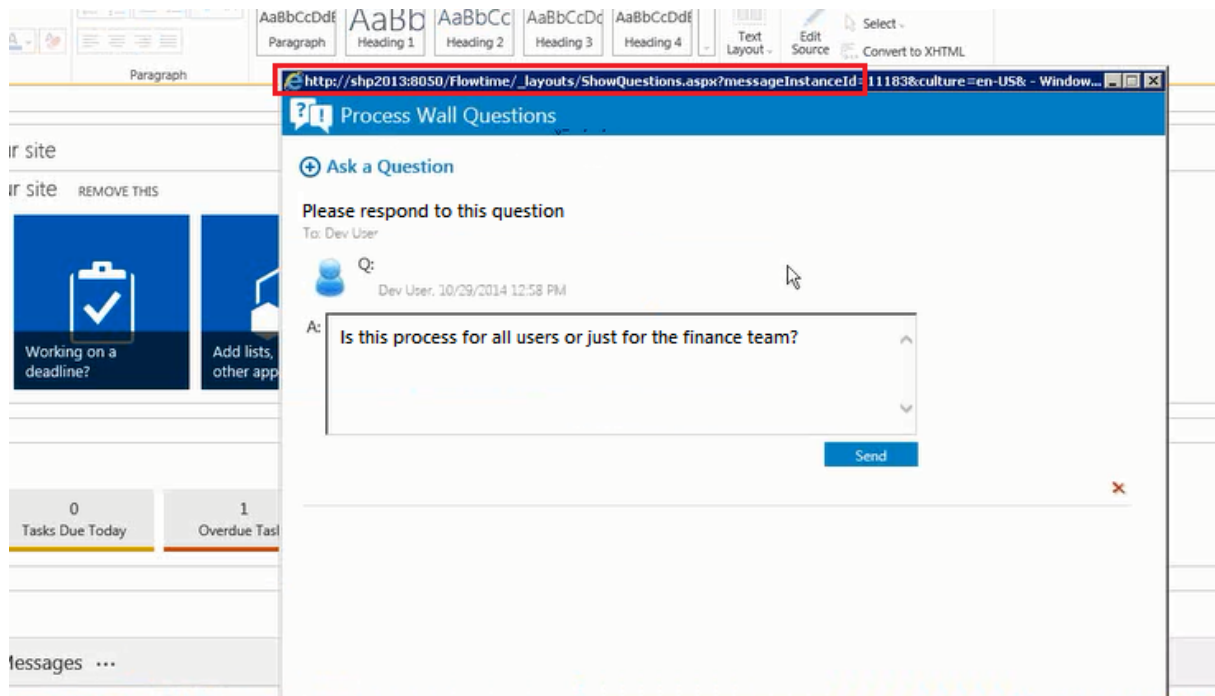
Flowtime Web Parts Added to a Page

Handling Page Links

It is important to understand that only the Flowtime web part themselves are imported into your SharePoint environment. The data that populates them is retrieved from WCF services from the site on which Flowtime is installed.

Many of web parts include links to other pages. Some of these links open pages on the Flowtime server (on the Sequence SharePoint-less installation), and some of them point to other pages on this site.

For example, if you open a question page, it is opened from the Flowtime server:



Question Page

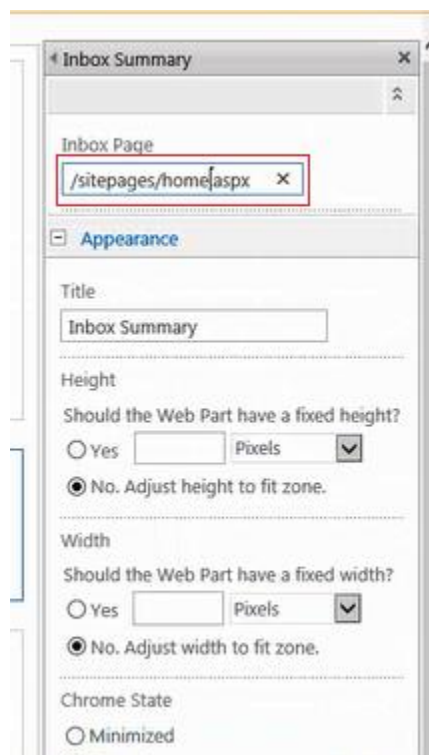
The following tables provide a partial list of links to pages by type. This list is not exhaustive, but is intended to give you direction regarding the two types of links.

Pages that are opened on the Flowtime server	
Page	Opened from page
AddDelegation.aspx	MyDelegations.aspx
RunTime.aspx	Inbox.aspx
ShowComments.aspx	Process instance page
ShowMessage.aspx	Inbox.aspx
ShowQuestions.aspx	Process instance page
ViewTrace.aspx	OpenProcesses.aspx
WFStatusDiagram.aspx	OpenProcesses.aspx

Pages which are navigated from a web part	
Web Part	Page
Inbox Summary	Inbox.aspx
Processes I Started	OpenProcesses.aspx
Processes Grid	Monitoring/default.aspx
Process List	Process.aspx
Visual	ProcessRecords.aspx

For pages which are navigated from a web part (the 2nd type mentioned above), you can choose to create the page, or edit the link using the Edit Web Part widget.

For example, the button **Inbox**, in the Inbox Summary web part links to *inbox.aspx*, but since that page does not exist on your SharePoint site, you must either create an *inbox.aspx* page, or edit the link to lead to a page which does exist. This is easy to do from the Edit Web Part menu:



Edit Web Part Menu

Updating the Solution

After you have installed the Remote Web Part solution, if an updated solution is released by PNMSOFT, you can easily update your solution using the following command in the SharePoint Management Shell:

```
Update-SPSolution -Identity PNMSOFT.Sequence.Flowtime.SharePoint.Remote.wsp -
LiteralPath c:\PNMSOFT.Sequence.Flowtime.SharePoint.Remote.wsp -GACDeployment
```

This updates the solution without any need to carry out installation additional steps.

Miscellaneous Notes

- The Remote Web Parts feature supports Windows and Claims authentication, but not Forms authentication.
- Legacy Flowtime web parts are not available (e.g. Charts, Dashboard Filter).
- The Edit Web Part widget supports English language only.

Appendix A: web.config Changes

The following changes are made to your web application web.config file when you activate the Remote Web Part feature within your SharePoint Site Settings:

1. configuration/system.webServer/handlers:

```
<remove name='ReportViewerWebControl' />
<add name="ReportViewerWebControlHandlers" preCondition="integratedMode" verb="*"
path="Reserved.ReportViewerWebControl.axd"
type="Microsoft.Reporting.WebForms.HttpHandler, Microsoft.Reporting.WebForms,
Version=11.0.0.0, Culture=neutral, PublicKeyToken=89845dcd8080cc91" />
```

2. configuration/system.webServer/modules:

```
<add name="Session" type="System.Web.SessionState.SessionStateModule" />
```

3. configuration/appSettings

```
<remove key="ReportViewerMessages" />
```