Microsoft

Deep Dive into SharePoint Hosted Apps

Office 365

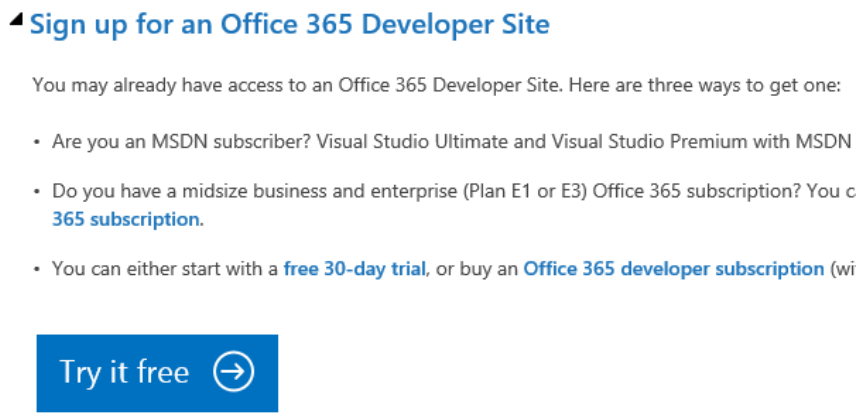
Hands-on lab

In this lab, you will learn how to create SharePoint Hosted Apps.

Exercise 1: Create a SharePoint-Hosted App

You must have an Office 365 tenant to complete this lab. To sign up for an Office 365 developer subscription:

1. Navigate to http://msdn.microsoft.com/en-us/library/office/fp179924(v=office.15).aspx.
2. Under the heading **Sign up for an Office 365 Developer Site** click **Try It Free**.

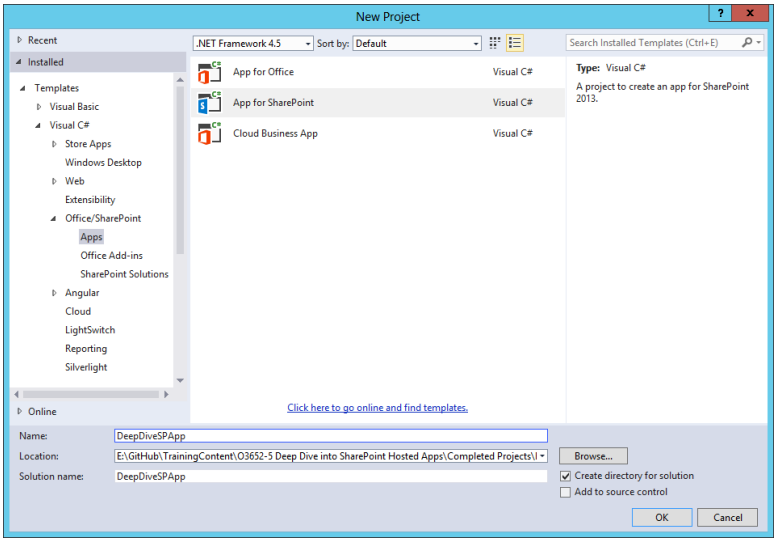


3. Fill out the form to obtain your trial O365 subscription.
4. When completed, you will have a developer site in the [subscription].sharepoint.com domain located at the root of your subscription (e.g. https://mysubscription.sharepoint.com)

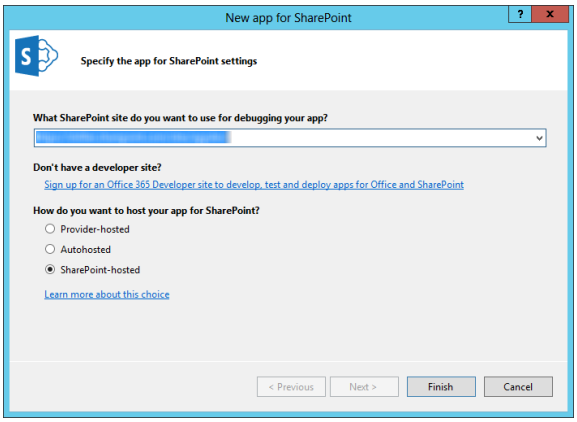
In this exercise you will create a basic SharePoint-Hosted app that you can enhance in follow-on exercises.

Create the new project in Visual Studio 2013.

1. Launch **Visual Studio 2013** as administrator.
2. In Visual Studio select **File/New/Project**.
3. In the New Project dialog:
    1. Select **Templates/Visual C#/Office/SharePoint/Apps**.
    2. Click **App for SharePoint 2013**.
    3. Name the new project **DeepDiveSPApp** and click **OK**.



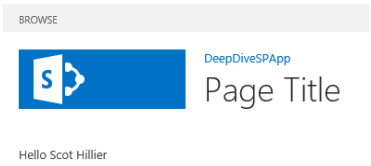
4. In the New App for SharePoint wizard:
    1. Enter the address of a SharePoint site to use for testing the app (***NOTE***: The targeted site must be based on a Developer Site template)
    2. Select **SharePoint Hosted** as the hosting model.
    3. Click **Finish**.



4. When prompted, log in using your O365 administrator credentials.

Test the app

1. After the project is created, press **F5** to debug the app.
2. Verify that the app launches and greets you.



3. Stop debugging.
4. The code in the project template utilizes the client-side object model (CSOM). However, it can be rewritten to utilize the equivalent REST calls.
    1. Open the **app.js** file located in the **scripts** folder.
    2. Delete all of the JavaScript code in the file.
    3. Add the following code to the **app.js** file.

```
(function () {
    "use strict";

    jQuery(function () {

        jQuery.ajax({
            url: "../_api/web/currentuser",
            type: "GET",
            headers: {
                "accept": "application/json;odata=verbose",
            },
            success: function (data, status, jqXHR) {
                jQuery("#message").text("Welcome, " + data.d.Title);
            },
            error: function (jqXHR, status, message) {
                jQuery("#message").text(message);
            }
        });

    });

}());
```

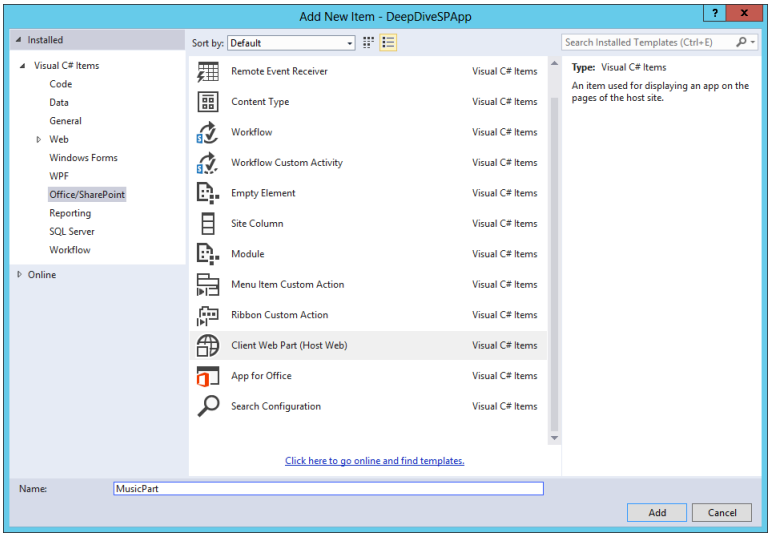
    4. Press **F5** to debug the app.
    5. Verify that the app launches and greets you.

Exercise 2: Create an App Part

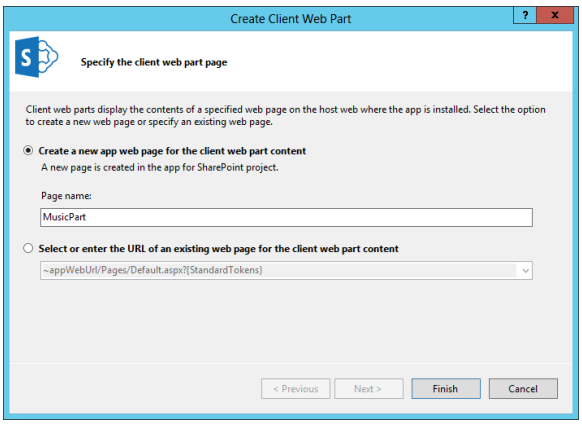
In this exercise you will add an app part to your project for displaying song titles based on a specified artist.

Add the new Client Web Part

1. In **Visual Studio 2013**, right click the **DeepDiveSPApp** project and select **Add/New Item**.
2. In the **New Item** dialog, select **Client Web Part (Host Web)**.
3. Name the new app part **MusicPart** and click **Add**.



4. In the **Specify the Client Web Part Page** dialog, select **Create a New App Web Page for the Client Web Part Content**.
5. Click **Finish**



6. In the **Element.xml** file that describes the Client web part, **replace** the **ClientWebPart** element with the following code.

```
<ClientWebPart
  Name="MusicPart"
  Title="Music App Part"
  Description="Displays songs from a specified artist"
  DefaultWidth="300"
  DefaultHeight="200">

  <Content Type="html"
Src="~appWebUrl/Pages/MusicPart.aspx?{StandardTokens}&amp;Artist=_Ar
tist_" />

  <Properties>
    <Property
      Name="Artist"
      Type="string"
      WebBrowsable="true"
      WebDisplayName="Artist"
      WebDescription ="The artist to search"
      WebCategory="Configuration"
      DefaultValue="artist"
      RequiresDesignerPermission="true"
      PersonalizableIsSensitive="false"
      PersonalizationScope="shared"/>
  </Properties>

</ClientWebPart>
```

Prepare the App Part user interface

1. Open **MusicPart.aspx** for editing.
2. Add the following HTML to the body element for displaying information in the app part.

```
  <div>
      <ul id="songList"></ul>
  </div>
```

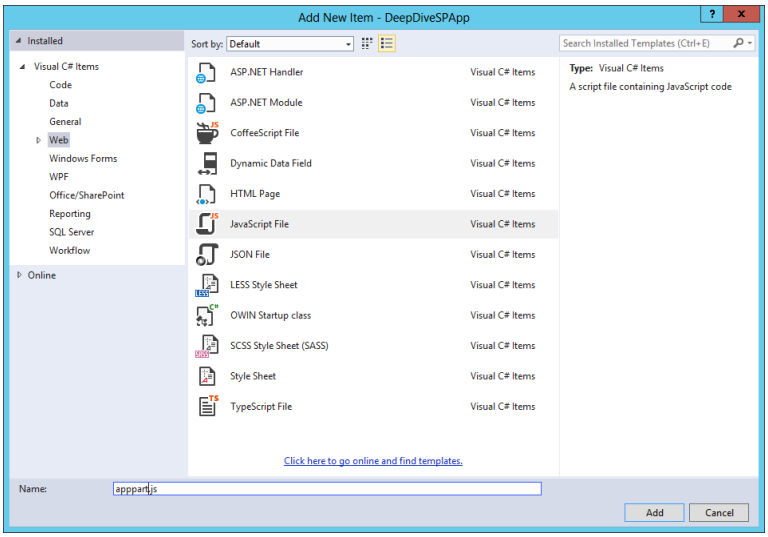
3. Add the following script reference to the head section to include functionality for the app part.

```
<script type="text/javascript" src="../Scripts/apppart.js"></script>
```

Code the App Part

1. Right click the **scripts** node and select **Add/New Item**.

2. In the **Add New Item** dialog, select **Web** and then **JavaScript File**.
3. Name the new file **apppart.js**.
4. Click **Add**.



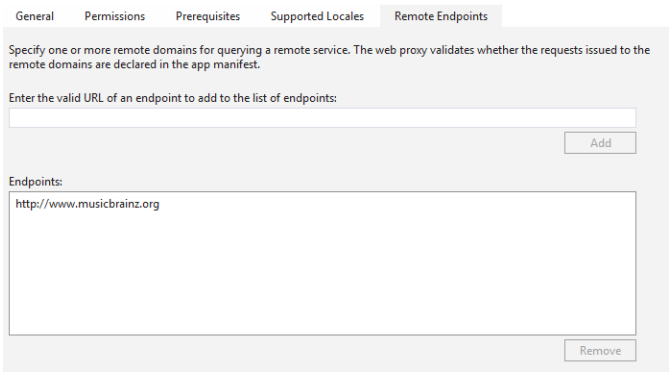
5. Add* the following code to **apppart.js** to call the **MusicBrainz** service and display songs for the designated artist.

```
(function () {
    "use strict";

    $(function () {

        var ctx = SP.ClientContext.get_current();
        var request = new SP.WebRequestInfo();

        request.set_url(
            "http://www.musicbrainz.org/ws/2/release-group?query=artist:" + artist
            );
        request.set_method("GET");
        responseDocument = SP.WebProxy.invoke(ctx, request);
        ctx.executeQueryAsync(onSuccess, onError);

    });

}());

var onSuccess = function () {
```

```
        var xmlDoc = $.parseXML(responseDocument.get_body());
        $(xmlDoc).find("release-group").each(function (i) {
            var title = $(this).children("title").first().text();
            $("#songList").append("<li>" + title + "</li>")
        });
    }

    var onError = function () {
        alert("failed!");
    }

    var getQueryStringParameter = function (p) {
        var params =
           document.URL.split("?")[1].split("&");
        var strParams = "";
        for (var i = 0; i < params.length; i = i + 1) {
            var singleParam = params[i].split("=");
            if (singleParam[0] == p)
                return decodeURIComponent(singleParam[1]);
        }
    }

    var artist = getQueryStringParameter("Artist");
    var responseDocument = "";
```

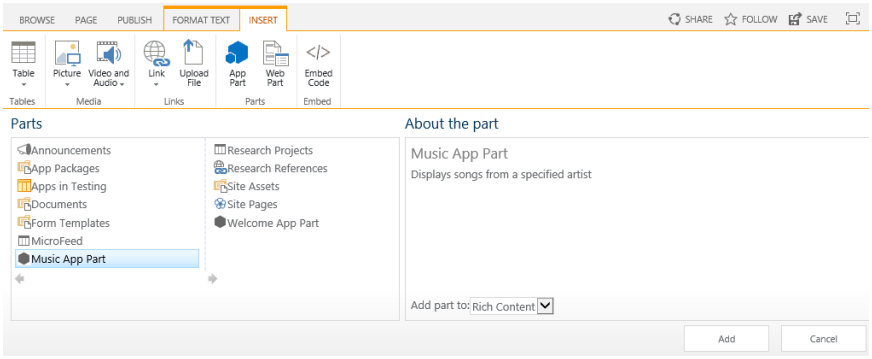
Test the App Part

1. Open **AppManifest.xml**
2. Click **Remote Endpoints**
3. Add the endpoint http://www.musicbrainz.org and click **Add**



4. Press **F5** to start debugging.

5. When the app launches, navigate away from the app home page to the home page of the **host web**.
6. Place the page in edit mode.
7. Click **Insert/App Part**.
8. Select the **Music App Part** and click **Add**



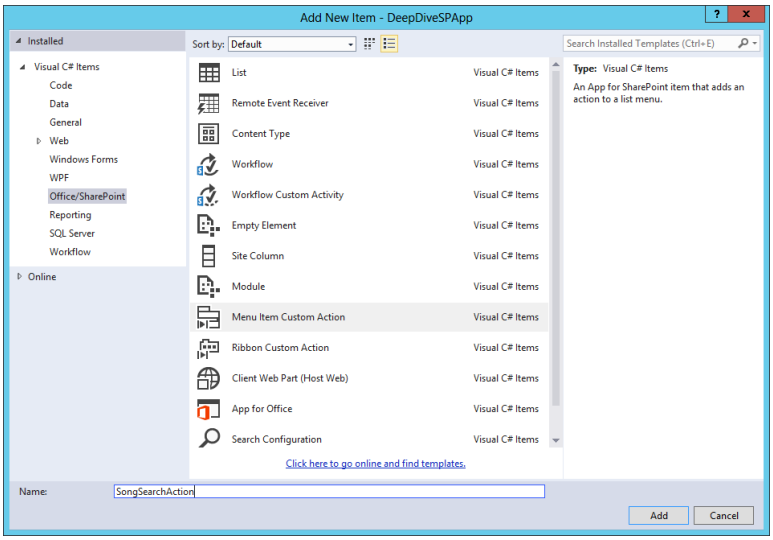
9. Hover over the app part and select **Edit Web Part** from the menu.
10. In the **Web Part Properties**, change the **Artist** property to a different value.
11. Click **OK** and verify that songs appear in the app part.
12. Stop debugging.

Exercise 3: Create a Menu Item custom action

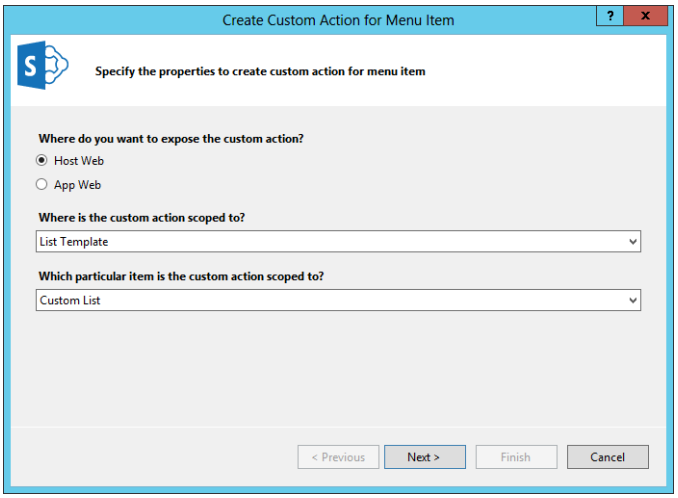
In this exercise you will add a Menu Item custom action to invoke the song search from a SharePoint list.

Add the new Menu Item Custom action

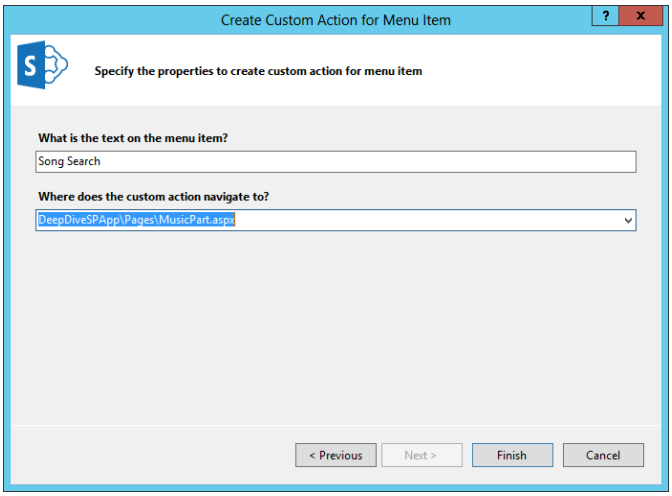
1. In **Visual Studio 2013**, right click the **DeepDiveSPApp** project and select **Add/New Item**.
2. In the **New Item** dialog, select **Menu Item Custom Action**.
3. Name the new app part **SongSearchAction** and click **Add**.



4. In the **Specify the Properties to Create Custom Action for menu Item** dialog
    1. Select **Host Web**
    2. Select **List Template**
    3. Select **Custom List**
    4. Click **Next**



5. In the **Specify the Properties to Create Custom Action for menu Item** dialog
    1. Enter **Song Search** as the title
    2. Enter **DeepDiveSPApp\Pages\MusicPart.aspx** as the target page
    3. Click **Finish**



6. Open **MusicPart.aspx** for editing.
7. Add the following script reference to the **head** section just before the **apppart.js** reference.

```
    <script type="text/javascript"
src="/_layouts/15/sp.requestexecutor.js"></script>
```

Code the Menu Item Custom Action

1. Open **apppart.js** for editing.
2. **Add** the following code to the bottom on the file to retrieve an artist name from a custom list selection.

```
var appWebUrl = getQueryStringParameter("SPAppWebUrl");
var hostWebUrl = getQueryStringParameter("SPHostUrl");
var listId = getQueryStringParameter("SPListId");
var listItemId = getQueryStringParameter("SPListItemId");

if (typeof (listId) != "undefined" && typeof (listItemId) !=
"undefined") {
    listId = listId.substring(1, listId.length - 1);
    var executor = new SP.RequestExecutor(appWebUrl);
    executor.executeAsync({
        url: "../_api/SP.AppContextSite(@target)/web/lists(guid'" +
listId +
            "')/getItemByStringId('" + listItemId +
```

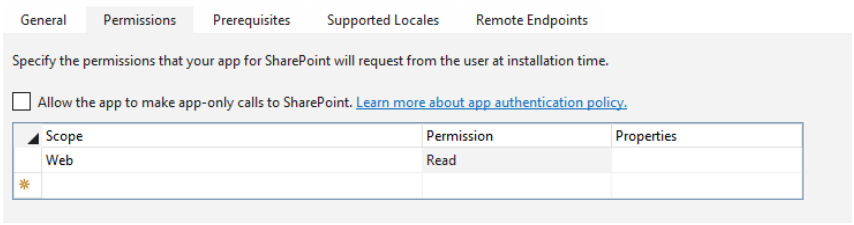
```
↪              "')?@target='" + hostWebUrl + "'",
↪          method: "GET",
↪          headers: {
↪              "accept": "application/json;odata=verbose",
↪          },
↪          success: function (data) {
↪              artist = JSON.parse(data.body).d.Title;
↪          },
↪          error: function (data) {
↪              artist = "artist";
↪          }
↪      });
↪  }
```

3. Enclose the call to MusicBranz in a **timeout** function as a simple way to ensure the artist name is retrieved from the list before the call is made. The following code shows how this is done

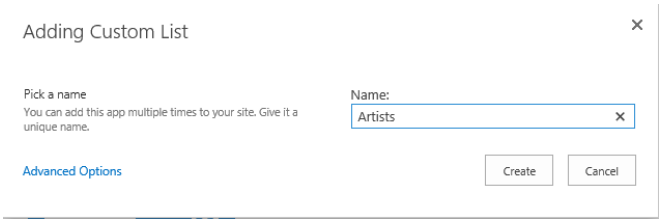
```
↪        setTimeout(function () {
↪
↪            var ctx = SP.ClientContext.get_current();
↪            var request = new SP.WebRequestInfo();
↪
↪            request.set_url(
↪                "http://www.musicbrainz.org/ws/2/release-
   group?query=artist:" + artist
↪                );
↪            request.set_method("GET");
↪            responseDocument = SP.WebProxy.invoke(ctx, request);
↪            ctx.executeQueryAsync(onSuccess, onError);
↪
↪        }, 2000)
```

Test the Menu Item custom action

1. Open **AppManifest.xml**
2. Click **Permissions**
3. Select **Web** for the **Scope**.
4. Select **Read** for the **Right**



5. Press **F5** to start debugging.
6. When the app launches, navigate away from the app home page to the home page of the **host web**.
7. On the host web home page, click **Site Contents**.
8. Click **Add an App**.
9. Click **Custom List.**
10. Name the new list **Artists**.
11. Click **Create**



12. Add a new artist name to the list.
13. Using the item menu, select **Song Search**.

Congratulations! You have completed investigating SharePoint-Hosted apps.