

Pages, Navigation & User Interface

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Agenda

- **Master Pages in SharePoint 2013**
- **Site Pages and Modules**
- **User Interface Design for Apps**
- **Application Pages**
- **Extending Site Settings**

SharePoint Sites are Collections of Pages

- **All pages share the same look and feel**
 - HTML page layout defined by common Master Page
 - Page formatting defined by common CSS files
 - Client-side behaviors defined by JavaScript files
- **Pages within site can be split into two categories**
 - **Site Pages** exist within the content DB for a site
 - **Application Pages** only exist on file system of WFE

Site Pages vs. Application Pages

- **Site Pages exist within virtual file system of site**
 - They support customization via Web Parts and/or SPD
 - Site pages can be rendered using underlying template
 - Page using template is said to be a ghosted page
 - Page can be customized (unghosted) by user
- **Application Pages are deployed once per farm**
 - They are accessible through **_layouts** virtual directory
 - They are parsed / compiled in classic ASP.NET mode
 - They do not support any form of user customization
 - They can only be added using farm solutions

SharePoint Integration with Master Pages


- **Master Page integration with SharePoint 2010**

- Master Pages stored in Master Page Gallery (MPG)
- MPG created automatically on per site basis
- All pages in site link to `v4.master` in MPG

- **Changes in SharePoint 2013**


- `v4.master` serves as master page for 2010 UI mode
- `seattle.master` serves as default master page in 2013
- Site has new `UseV15Rendering` property
- MPG includes others (e.g. `belltown.master`)
- New options for user to change site master page


Changing the Look of a Site




Pages and Navigation Lab

Site Settings ▸ Change the look


 Start over

Try it out 

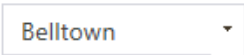


CHANGE REMOVE

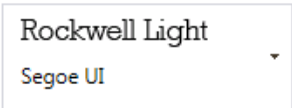
Colors



Site layout




Fonts



SharePoint

Newsfeed Documents Sites Welcome, Armando

BROWSE PAGE



CONTENT SITE

WHAT'S NEW NOTEBOOK DOCUMENTS ADD LINK

search this site...

Documents

Documents

Name	Modified Date	Author
Drag files here or click to add new		
First Document	10/22/2010 5:46pm	Pilar Pinilla
Second Document	10/22/2010 5:46pm	Terry Adams
Third Document	10/22/2010 5:46pm	Christian Hess
Fourth Document	10/22/2010 5:46pm	Christian Hess
Fifth Document	10/22/2010 5:46pm	Terry Adams

GETTING STARTED

[Share this site](#)

[Change site theme](#)

SHAREPOINT APPS

[Project](#)

Share and track to do's and milestones with coworkers.

[Team Calendar](#)

Share and track all of your team events in a single location.

[Announcements](#)

Keep everyone in the loop with a central place for news.

[Get more apps...](#)

Agenda

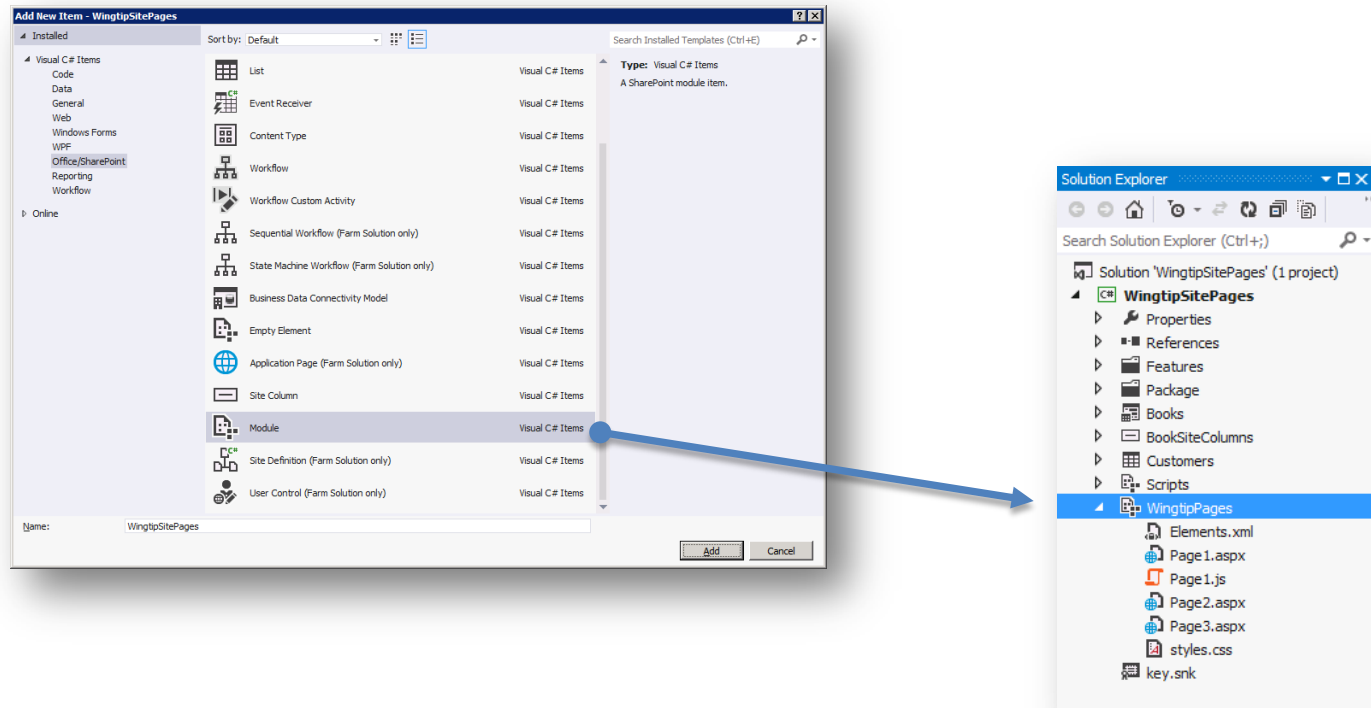
- ✓ Master Pages in SharePoint 2013
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Site Pages Overview

- **Site pages can be added by a developer**
 - Works in SharePoint solutions and in SharePoint apps
 - Sites pages and related resources added with **Modules**
 - Site pages cannot contain any server-side code
- **Developers create site pages using templates**
 - You create a Module and add one or more templates
 - Feature activation create instances from the templates
 - Sites pages initially in uncusomized state (ghosted)
 - Sites pages can be customized (unghosted) by users

Creating Site Pages from Page Templates

- **Site pages created using a Module**
 - Module must be associated with a feature
 - Visual Studio adds project folder with `elements.xml` file
 - Inside is a `<Module>` element with `<File>` elements



Modules & Elements.xml File

- **Visual Studio updates Module element .xml for you**
 - You just create / add files to Module folder
 - Some scenarios requires manual edits to elements.xml

```
<?xml version="1.0" encoding="utf-8"?>
<Elements xmlns="http://schemas.microsoft.com/sharepoint/">
  <Module Name="WingtipPages">
    <File Path="WingtipPages\Page1.aspx" Url="WingtipPages/Page1.aspx" />
    <File Path="WingtipPages\Page2.aspx" Url="WingtipPages/Page2.aspx" />
    <File Path="WingtipPages\Page3.aspx" Url="WingtipPages/Page3.aspx" />
    <File Path="WingtipPages\styles.css" Url="WingtipPages/styles.css" />
  </Module>
</Elements>
```

'Hello World' Page Template for Site Page

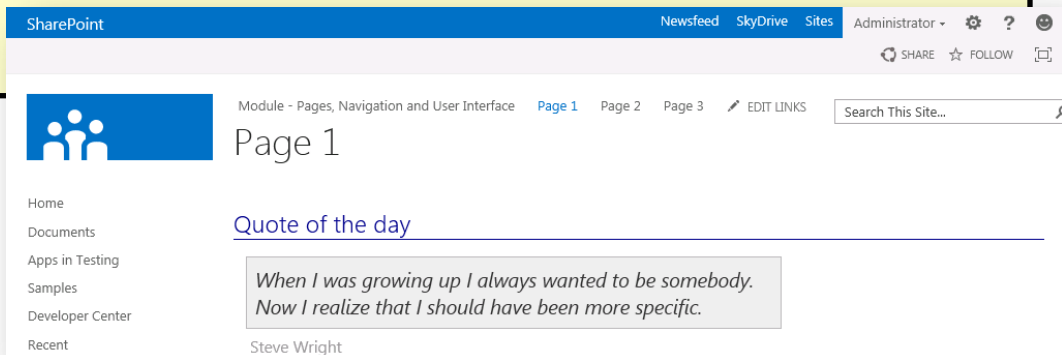
```
<%@ Page MasterPageFile=~masterurl/default.master" %>

<asp:Content ContentPlaceHolderId="PlaceHolderAdditionalPageHead" runat="server">
  <link href="styles.css" rel="stylesheet" type="text/css" />
  <script src="Page1.js" type="text/javascript"></script>
</asp:Content>

<asp:Content ContentPlaceHolderId="PlaceHolderPageTitle" runat="server">
  Page 1 - This shows up at the top of the browser window
</asp:Content>

<asp:Content ContentPlaceHolderId="PlaceHolderPageTitleInTitleArea" runat="server">
  Page 1
</asp:Content>

<asp:Content ContentPlaceHolderId="PlaceHolderMain" runat="server">
  <h3>Quote of the day</h3>
  <p id="quote">When I was growing up I always wanted to be somebody.
    Now I realize that I should have been more specific.</p>
  <p id="quote_author">Steve Wright</p>
</asp:Content>
```



Designing Web Part Pages

- **Changes from previous page templates**
 - Inherit from `WebPartPage` class
 - Add controls for web part zones and web parts

```
<%@ Assembly Name="Microsoft.SharePoint, Version=15.0.0.0, Culture=neutral, PublicKeyToken=71e9bce111e9429c" %>

<%@ Page MasterPageFile="~masterurl/default.master" Inherits="Microsoft.SharePoint.WebPartPages.WebPartPage" %>

<%@ Register TagPrefix="WebPartPages"
    Namespace="Microsoft.SharePoint.WebPartPages"
    Assembly="Microsoft.SharePoint, Version=15.0.0.0, Culture=neutral, PublicKeyToken=71e9bce111e9429c" %>

<asp:Content ContentPlaceHolderID="PlaceHolderMain" runat="server">
    <WebPartPages:WebPartZone ID="Main" Title="Main Web Part Zone" FrameType="TitleBarOnly" runat="server">
        <ZoneTemplate>
            <WebPartPages:XsltListViewWebPart
                runat="server" ID="CcustomersWebPart"
                Title="Customers" ListUrl="Lists/Customers"
                ChromeType="None">
            </WebPartPages:XsltListViewWebPart>
        </ZoneTemplate>
    </WebPartPages:WebPartZone>
</asp:Content>
```

Adding Navigation Nodes to Top Nav Bar

- **Simple navigation technique for teams sites**
 - Done using server-side code or client-side code
 - Not a technique to use in publishing sites

```
public class MainSiteEventReceiver : SPFeatureReceiver
{
    public override void FeatureActivated(SPFeatureReceiverProperties properties)
    {
        SPSite siteCollection = properties.Feature.Parent as SPSite;
        if (siteCollection != null)
        {
            SPWeb site = siteCollection.RootWeb;
            // create menu items on top link bar for custom site pages
            SPNavigationNodeCollection topNav = site.Navigation.TopNavigationBar;
            topNav.AddAsLast(new SPNavigationNode("Page 1", "WingtipPages/Page1.aspx"));
            topNav.AddAsLast(new SPNavigationNode("Page 2", "WingtipPages/Page2.aspx"));
            topNav.AddAsLast(new SPNavigationNode("Page 3", "WingtipPages/Page3.aspx"));
        }
    }
}
```



Pages and Navigation Lab

[Page 1](#)

[Page 2](#)

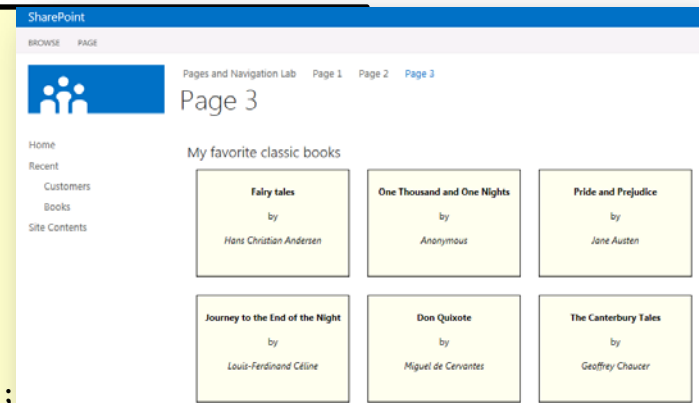
[Page 3](#)

Page 1

Custom View Rendering with JSLink

- **List view can have custom rendering logic**
 - Done by referencing JavaScript template in list view
 - Requires adding JSLink element to `schema.xml`

```
(function () {  
    // create and initialize object to override context  
    var overrideCtx = {};  
    overrideCtx.BaseViewID = 2;  
    overrideCtx.ListTemplateType = 10000;  
    // initialize template  
    overrideCtx.Templates = {};  
    overrideCtx.Templates.Header = "<h2>My favorite classic books</h2>";  
    overrideCtx.Templates.Item = customItem;  
    // register with page template manager  
    SPClientTemplates.TemplateManager.RegisterTemplateOverrides(overrideCtx);  
})();  
  
function customItem(ctx) {  
    // create item style  
    var itemStyle = "display:inline-block;width:200px;height:120px;border:black 1px solid;";  
  
    // create and return HTML for each item  
    return "<div style='" + itemStyle + "'>" +  
        ctx.CurrentItem.Title + "<br/>by<br/>" + ctx.CurrentItem.BookAuthor +  
        "</div>";  
}
```



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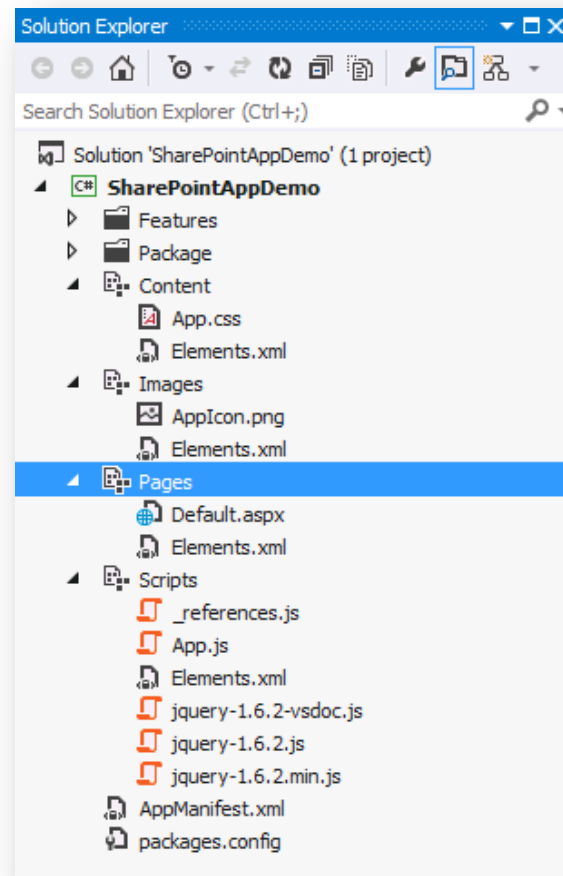
User Interface Extensions for Apps

- **SharePoint App model defines 3 UI entry points**
 - Start Page (required for every app)
 - App Part
 - UI Custom Action
- **All three entry points require pages behind them**
 - Pages added to app web with SharePoint-Hosted apps
 - Pages added to remote web with Cloud-Hosted apps

Modules in a SharePoint-Hosted App

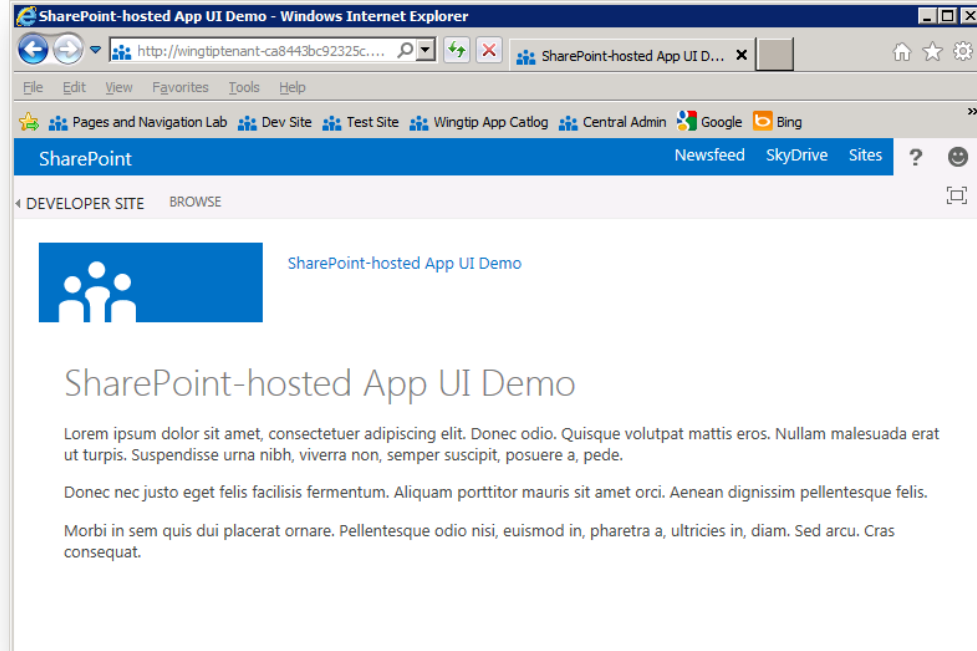
- **Visual Studio adds Modules to each new project**

1. Content
2. Images
3. Pages
4. Scripts



App.master

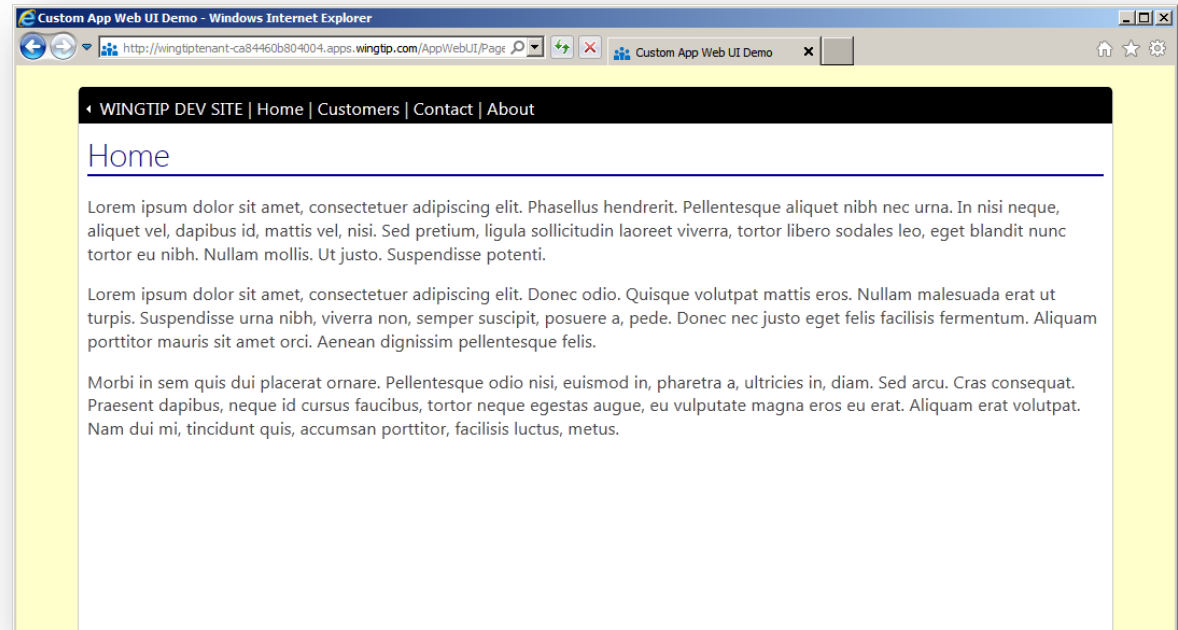
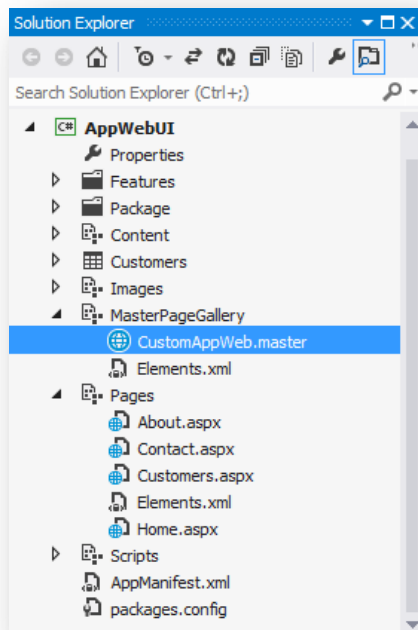
- **App web uses app.master by default**
 - Gives app SharePoint look and feel
 - Provides app with required link back to host web
 - Does not have Site Actions menu or top link bar



Custom Master Pages in the App Web

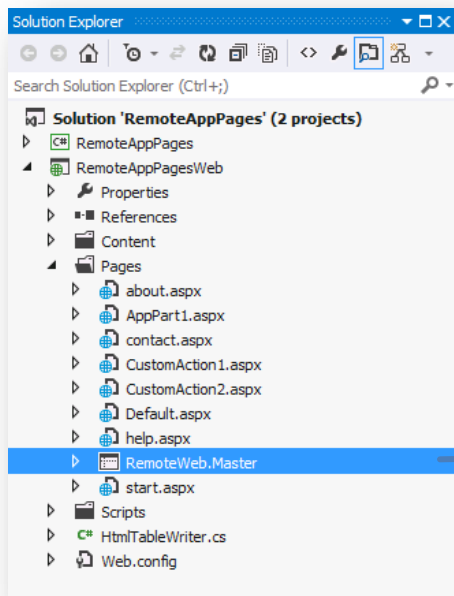
- **Custom master page added to MPG with Module**
 - Master page should have `ReturnToParentLink` control
 - Pages in app web can link to custom master page

```
<%@ Page MasterPageFile="~/site/_catalogs/masterpage/CustomAppWeb.master"
```



UI Design for Cloud-Hosted Apps

- **Cloud-hosted app pages live outside SharePoint**
 - You have responsibility and freedom to build entire UI
 - Often makes sense to create remote web master page



```
<%@Master language="C#" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html>
<head>
  <title>Remote App Pages</title>
  <link href="/Contents/app.css" type="text/css" rel="stylesheet" />
  <asp:ContentPlaceHolder ID="PlaceholderAdditionalPageHead" runat="server" />
</head>

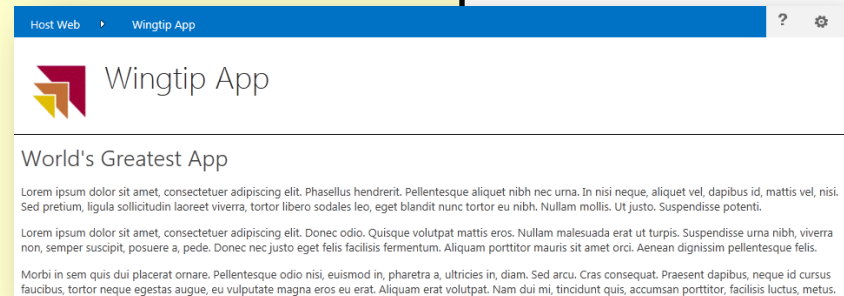
<body>
  <form id="form1" runat="server">
    <div id="pageWidth">
      <div id="chrome_ctrl_container"></div>
      <div id="contentBody">
        <asp:ContentPlaceHolder ID="PlaceholderMain" runat="server" />
      </div>
    </div>
  </form>
</body>
</html>
```

Leveraging the Chrome Control

- **JavaScript Component used in Remote Web**
 - Provides SharePoint look and feel to remote web page
 - Provides link to host web and configurable navigation

```
function renderChromeControl() {
    hostWebUrl = decodeURIComponent(getQueryStringParameter("SPHostUrl"));
    var options = {
        siteUrl: hostWebUrl,
        siteTitle: "Host Web",
        appHelpPageUrl: "help.aspx?SPHostUrl=" + hostWebUrl,
        appIconUrl: "/Contents/AppIcon.png",
        appTitle: "Wingtip App",
        settingsLinks: [
            { linkUrl: "start.aspx?SPHostUrl=" + hostWebUrl, displayName: "Home" },
            { linkUrl: "about.aspx?SPHostUrl=" + hostWebUrl, displayName: "About" },
            { linkUrl: "contact.aspx?SPHostUrl=" + hostWebUrl, displayName: "Contact" }
        ]
    };
    var nav =
        new SP.UI.Controls.Navigation("chrome_ctrl_container",
                                     options);

    nav.setVisible(true);
}
```

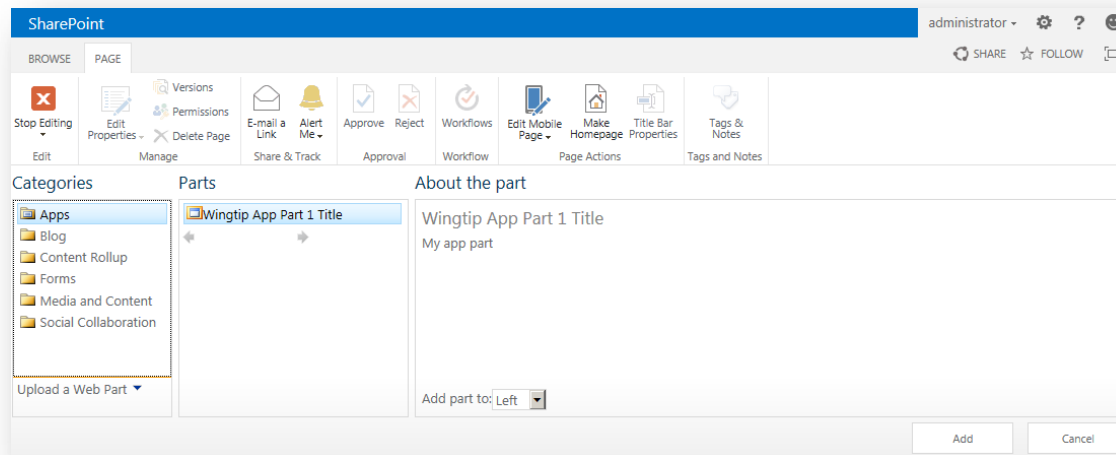


Creating App Parts using Client Web Parts

- App parts are implemented using client Web Part

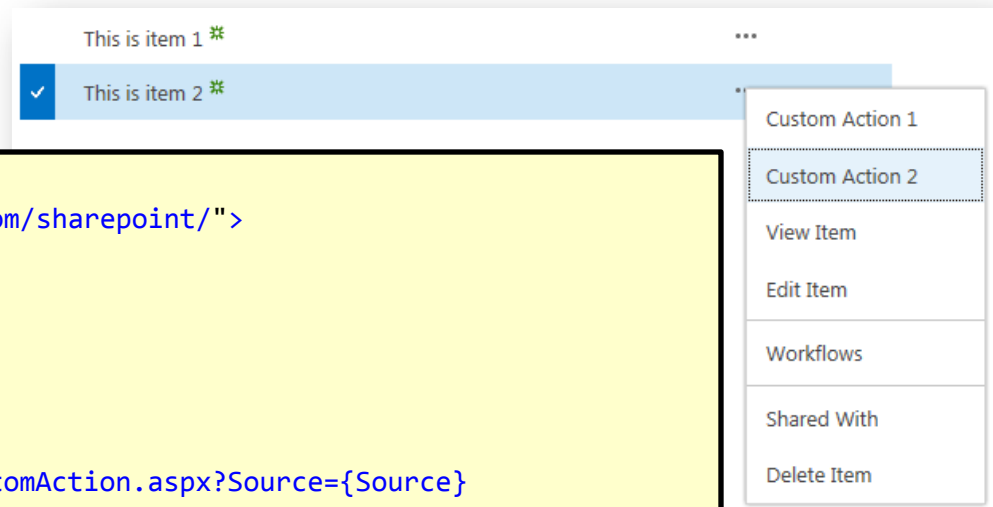
```
<?xml version="1.0" encoding="utf-8"?>
<Elements xmlns="http://schemas.microsoft.com/sharepoint/">
  <ClientWebPart Name="AppPart1"
    Title="Wingtip App Part Title"
    Description="My app part"
    DefaultWidth="600"
    DefaultHeight="360">
    <Content Type="html" Src="~remoteAppUrl/Pages/AppPart.aspx?{StandardTokens}" />
  </ClientWebPart>
</Elements>
```

- App parts added to host web pages as Web Parts



Creating UI Custom Actions

- **UI custom actions used to extend host web UI**
 - Used to create ECB menu items and ribbon buttons
 - Cannot use JavaScript or other types of custom actions
 - Supports many dynamic tokens related to host page, item and list



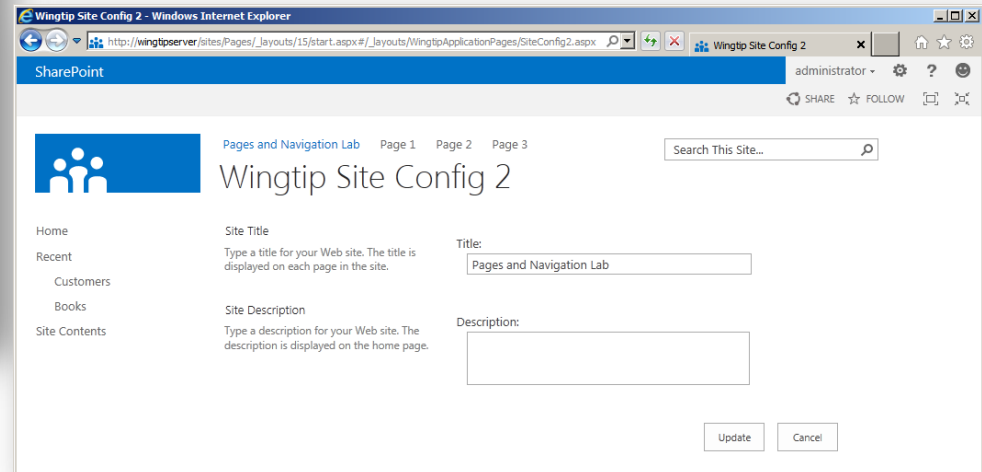
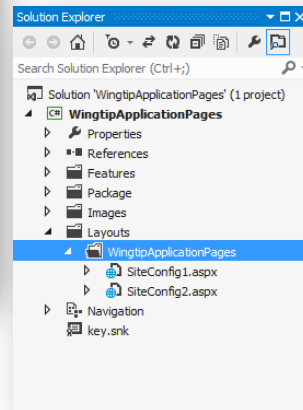
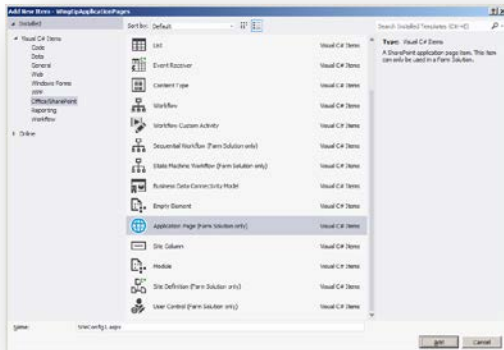
```
<?xml version="1.0" encoding="utf-8"?>
<Elements xmlns="http://schemas.microsoft.com/sharepoint/">
  <CustomAction Id="CustomAction1"
    RegistrationType="List"
    RegistrationId="100"
    Location="EditControlBlock"
    Sequence="10"
    Title="Custom Action">
    <UrlAction Url="~remoteAppUrl/Pages/CustomAction.aspx?Source={Source}
      &amp;ListURLDir={ListUrlDir}&amp;ListID={ListId}
      &amp;ItemURL={ItemUrl}&amp;ItemID={ItemId}
      &amp;{StandardTokens}"/>
  </CustomAction>
</Elements>
```

Agenda

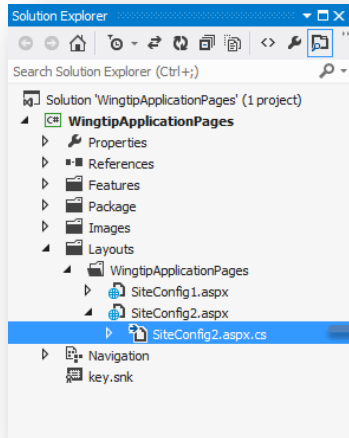
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Creating Application Pages

- **Creating custom application pages**
 - ❑ Visual Studio provides project item template
 - ❑ Only supported in farm solutions
 - ❑ Only type of page that supports server-side code



Adding Code to An Application Page



```
public partial class SiteConfig2 : LayoutsPageBase {

    protected override void OnInit(EventArgs e) {
        base.OnInit(e);
        cmdUpdate.Click += new EventHandler(cmdUpdate_Click);
    }

    void cmdUpdate_Click(object sender, EventArgs e) {
        SPWeb site = this.Web;
        site.Title = txtSiteTitle.Text;
        site.Description = txtSiteDescription.Text;
        site.Update();
        SPUtility.Redirect("settings.aspx",
                           SPRedirectFlags.RelativeToLayoutsPage,
                           this.Context);
    }

    protected override void OnPreRender(EventArgs e) {
        base.OnPreRender(e);
        SPWeb site = this.Web;
        txtSiteTitle.Text = site.Title;
        txtSiteDescription.Text = site.Description;
    }
}
```

Navigating with CustomActions

- CustomAction elements provide navigation
 - Add Site Settings links and Site Actions menu items

```
<CustomActionGroup
  Id="WingtipSiteConfiguration"
  Location="Microsoft.SharePoint.SiteSettings"
  Title="Wingtip Site Configuration"
  Sequence="1"
  Description="Wingtip application pages"
  ImageUrl="/_layouts/15/images/WingtipApplicationPages/WingtipIcon.gif" />
```

```
<CustomAction
  Id="WingtipSiteSettingsConfig1"
  GroupId="WingtipSiteConfiguration"
  Location="Microsoft.SharePoint.SiteSettings"
  Rights="ManageWeb"
  Sequence="1"
  Title="Site Config 1"
  Description="Use this page to configure the current site" >
  <UrlAction Url="~site/_layouts/WingtipApplicationPages/SiteConfig1.aspx" />
</CustomAction>
```

```
<CustomAction
  Id="WingtipSiteSettingsConfig2"
  GroupId="WingtipSiteConfiguration"
  Location="Microsoft.SharePoint.SiteSettings"
  Rights="ManageWeb"
  Sequence="2"
  Title="Site Config 2"
  Description="Use this page to configure the current"
  <UrlAction Url="~site/_layouts/WingtipApplicationPag" />
</CustomAction>
```

```
<CustomAction
  Id="WingtipSiteActionsConfig1"
  GroupId="SiteActions"
  Location="Microsoft.SharePoint.StandardMenu"
  Rights="ManageWeb"
  Sequence="1"
  Title="Site Config 1"
  Description="Use this page to configure the current site" >
  <UrlAction Url="~site/_layouts/WingtipApplicationPages/SiteConfig1.aspx" />
</CustomAction>
```

```
<CustomAction
  Id="WingtipSiteActionsConfig2"
  GroupId="SiteActions"
  Location="Microsoft.SharePoint.StandardMenu"
  Rights="ManageWeb"
  Sequence="2"
  Title="Site Config 2"
  Description="Use this fancier page to configure the current"
  <UrlAction Url="~site/_layouts/WingtipApplicationPages/SiteC" />
</CustomAction>
```

Pages and Navigation Lab Page 1 Page 2 Page 3

Pages and Navigation Lab ▸ Site Settings



Wingtip Site Configuration
Site Config 1
Site Config 2



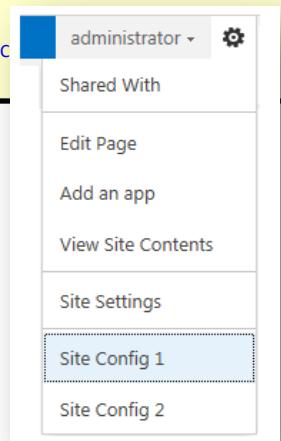
Look and Feel
Title, description, and logo
Quick launch
Top link bar
Tree view
Change the look



Users and Permissions
People and groups
Site permissions
Site collection administrators
Site app permissions



Web Designer Galleries
Site columns
Site content types
Web parts
List templates
Master pages



Summary

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