

A night photograph of a city street, likely in London, featuring a row of historic buildings with many lit windows. In the foreground, there are light trails from cars moving down the street. A tall clock tower is visible in the background on the right. The sky is dark blue.

November 23rd, 2013

Practical SharePoint for the .NET Developer

A Crash Course

John Calvert

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SHAREPOINT **SATURDAY**

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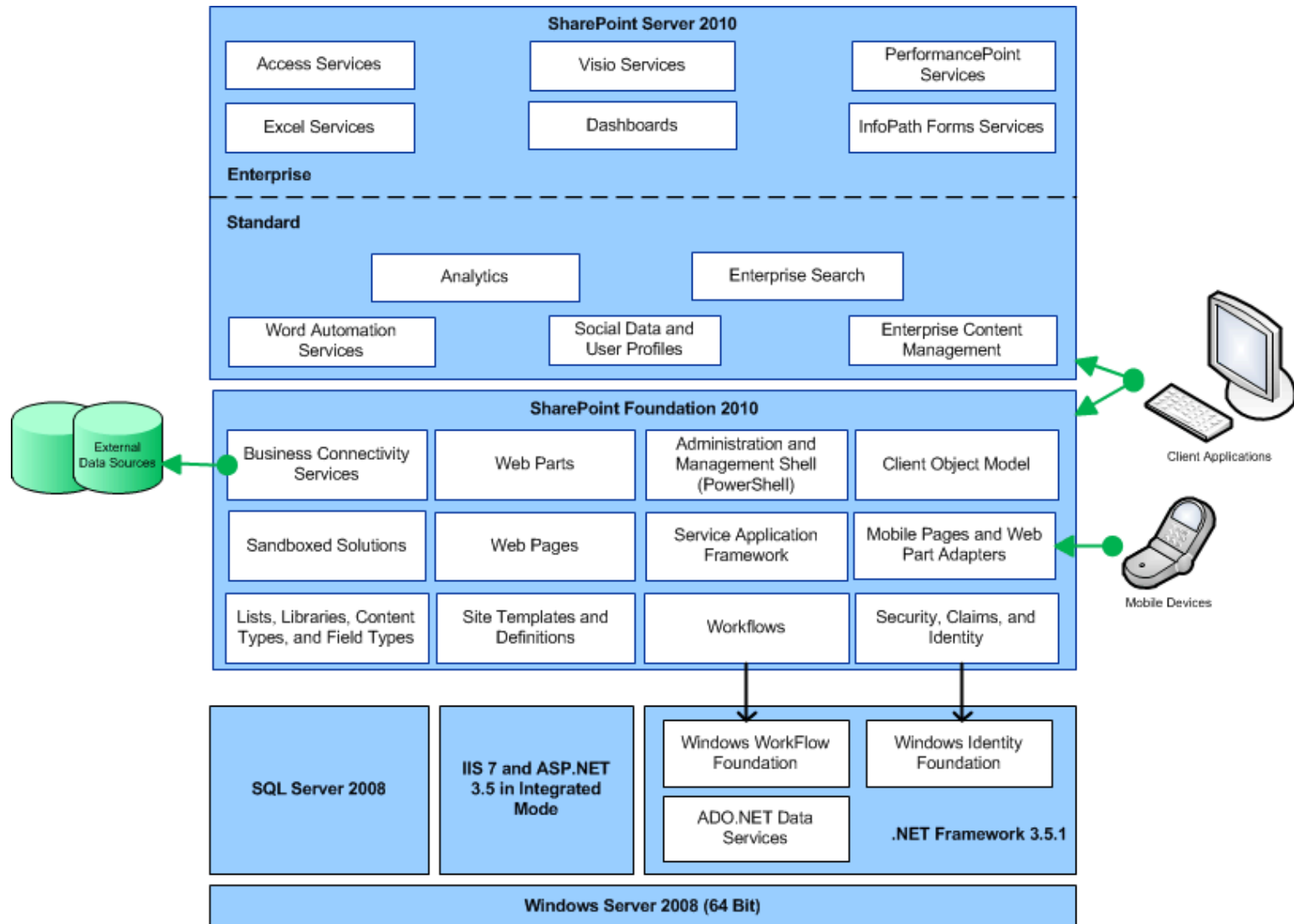
Agenda

- SharePoint Development
 - Technologies
 - Models
- SharePoint APIs
- Getting Started – Coding to SharePoint APIs
- Diving in Deep – Coding inside SharePoint
- Q&A / Evals

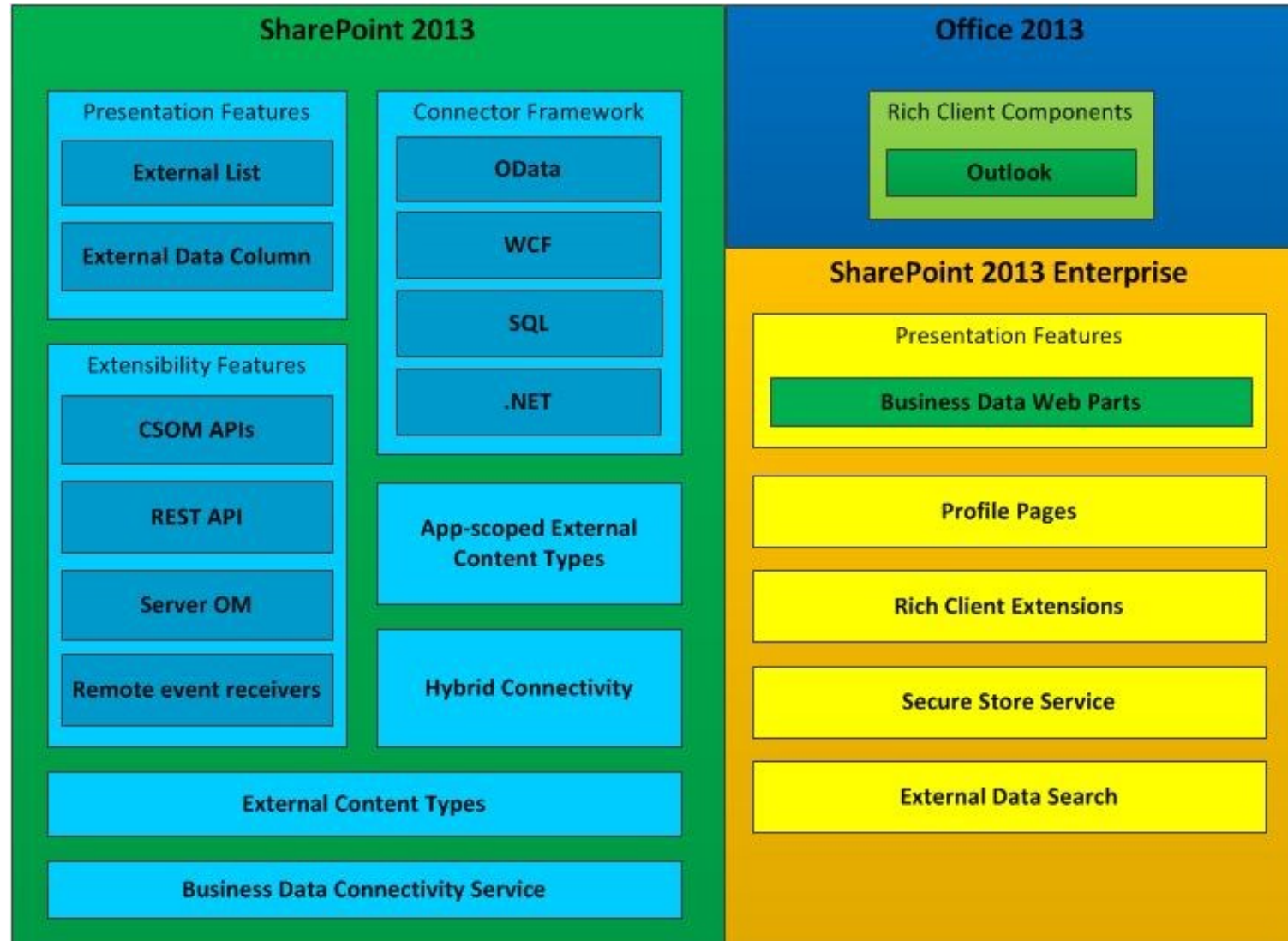
Who Am I

- .NET / SharePoint solution architect
- Over 18 years experience developing business solutions for private industry & government
- Recent clients include Justice, NRC, NSERC, DFAIT, CFPSPA, OSFI, MCC
- Specialize in Microsoft technologies

SharePoint 2010 Dev Stack



SharePoint 2013 Dev Stack



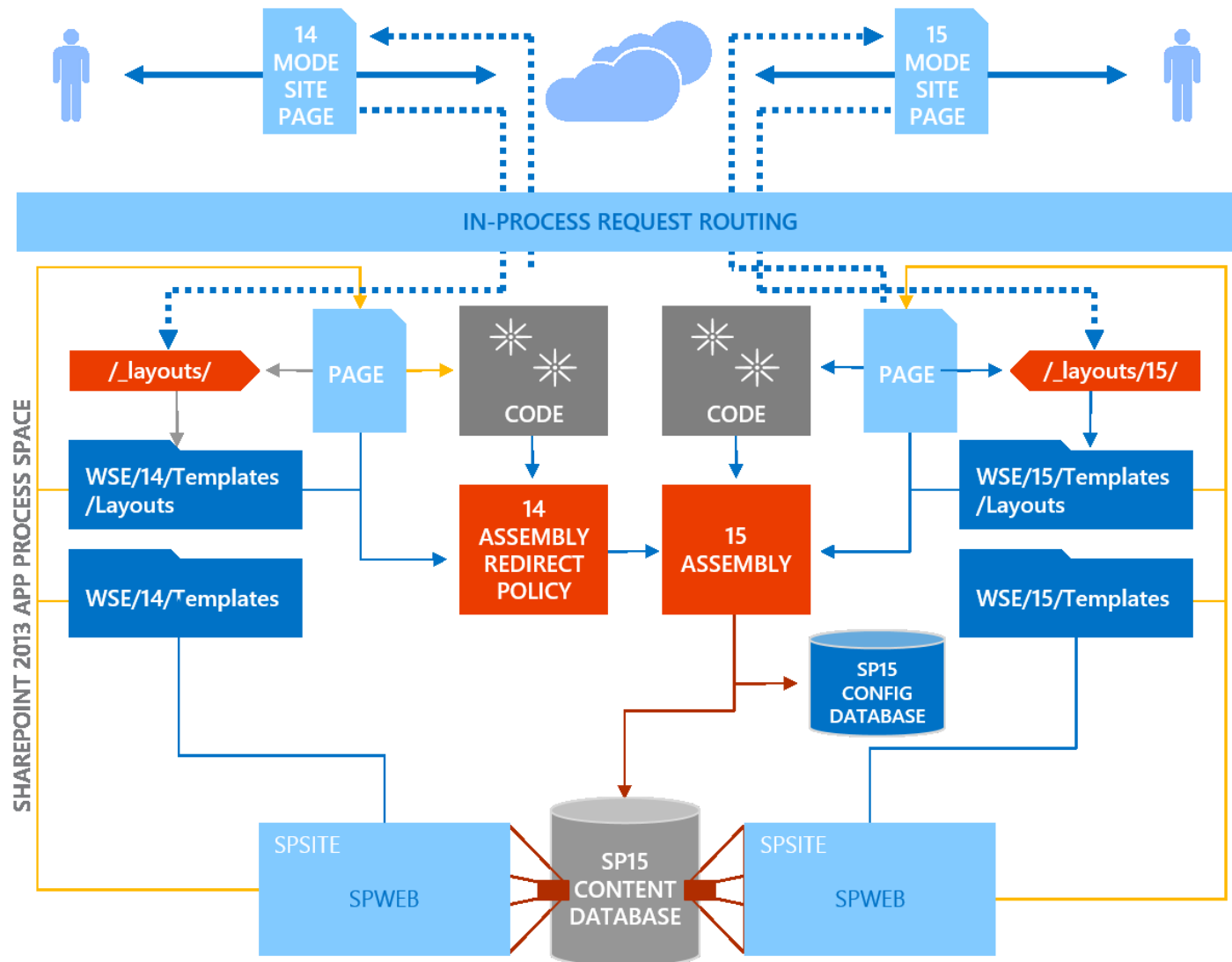
SharePoint 2010 Technologies

- Built on .NET 3.5.1, ASP.NET 3.5, WF 3.5
- IIS 7 and SQL Server 2008
- Win 2008 or Win7, x64
- 8GB RAM single-server
- .NET 3.5 for code calling SOM and code deployed inside SharePoint

SharePoint 2013 Technologies

- Built on .NET 4.5, ASP.NET 4.5, WF 4.5
- IIS 7.5 and SQL Server 2008 R2
- Windows Server 2008 R2, x64
- 12GB RAM in 3-tier farm, 24GB RAM single-server (less if services disabled)
- .NET 4.5 for coding calling SOM and code deployed inside SharePoint

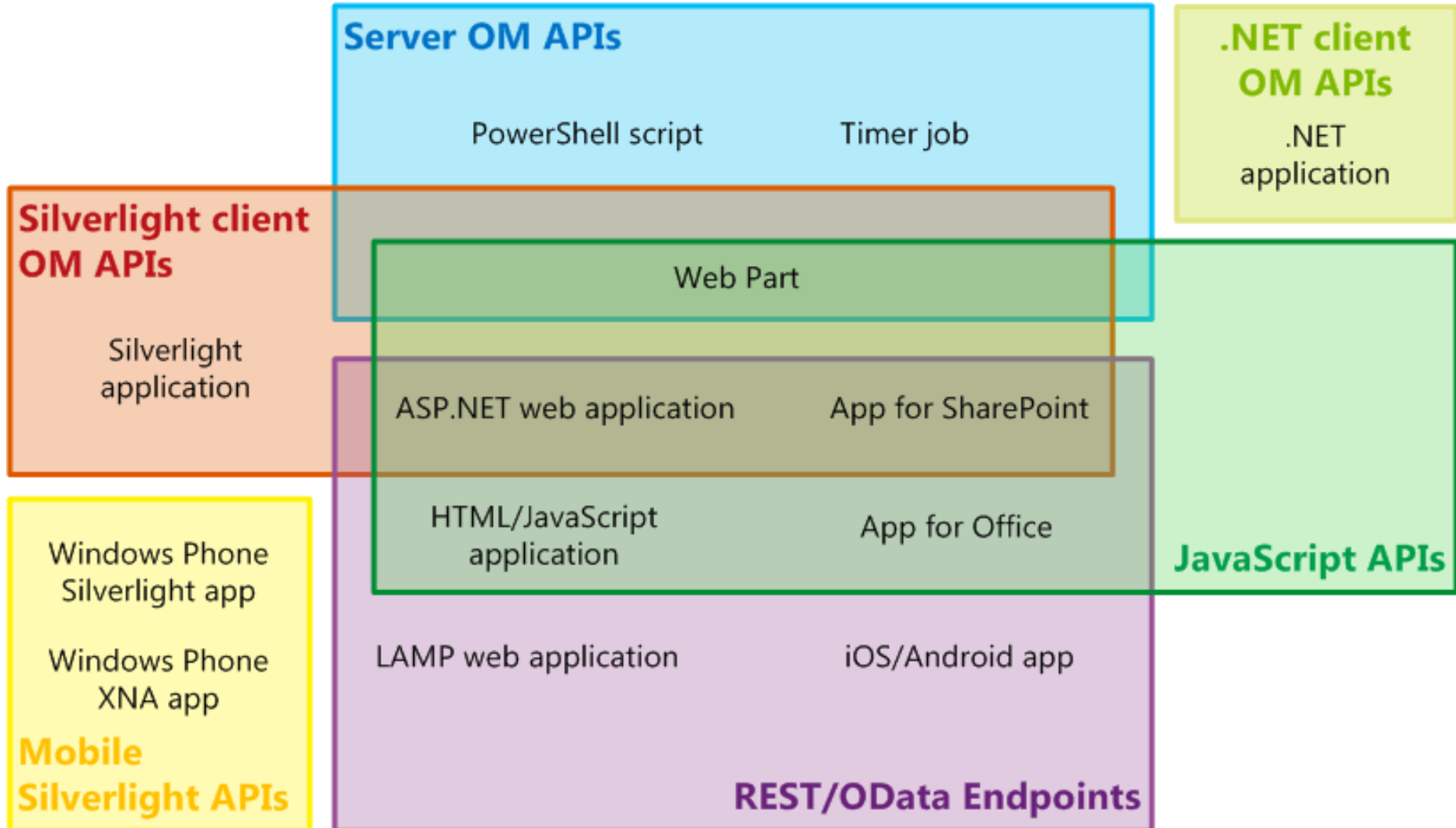
SharePoint Page Request



Development Models

- As a service
 - Web / Phone / Desktop / Server / Mashup
- As a framework
 - SharePoint Web Page
 - App Model
 - Farm Solution
 - Sandbox Solution

Integration Points



Development IDEs & Languages

- Any web or cloud IDE
- “Napa” Cloud-Based Development
- SharePoint Designer
 - HTML, CSS, JavaScript
- Visual Studio
 - .NET, etc
- PowerGUI or any PS command shell
 - PowerShell

Coding to SP APIs

- oData / REST
 - http://localhost/_vti_bin/ListData.svc
 - http://localhost/_api/lists/
- Client-Side Object Model (CSOM)
 - ClientContext.ExecuteQuery();
- Server App Model
- Server Object Model (SOM)
 - SPSite site = new SPSite("http://localhost/")
- Web Services
 - http://localhost/_vti_bin/Lists.asmx

Web Dev

- Using .NET, JavaScript, PHP, Ruby, etc
- Address an oData / REST end point
- Address CSOM .NET API

REST API (JavaScript)

```
$.ajax({
  url: "http://localhost/_api/lists/getbytitle('Documents')/items",
  type: "GET",
  headers: { "accept": "application/json;odata=verbose", },
  success: function (data) {
    $.each(data.d.results, function (index, item) {
      $('#docs').append("<li>" + item.Id + " / " + item.Title + "</li>");
    },
    error: function (error) {
      alert(JSON.stringify(error));
    }
  });
});
```


oData (.NET)

```
Uri u =  
new Uri("http://localhost/_vti_bin/ListData.svc/", UriKind.Absolute);
```

```
TeamSiteDataContext ctx = new TeamSiteDataContext(u);
```

```
ctx.Credentials = System.Net.CredentialCache.DefaultCredentials;
```

```
DataServiceQuery<DocumentItem> qry = ctx.Documents;
```

```
IEnumerable<DocumentItem> docs = qry.Execute();
```

.NET Desktop Dev

- Using WPF/WCF, WinForms or Silverlight
- Address an oData / REST end point
- Address CSOM or SOM .NET API

Client-Side Object Model (.NET)

```
using (ClientContext ctx = new ClientContext("http://localhost/"))
{
    Web web = ctx.Web;
    ListCollection lists = web.Lists;
    List list = web.Lists.GetByTitle(libraryname);
    CamlQuery qry = new CamlQuery();
    ListItemCollection items = list.GetItems(qry);
    ctx.Load(items, li => li.Include(pi => pi["LinkFilename"]));
    ctx.ExecuteQuery();
    return items;
}
```

Server Object Model (.NET)

```
using (SPSite site = new SPSite("http://localhost/"))
{
    using (SPWeb web = site.RootWeb)
    {
        SPList list = web.Lists["Documents"];
        SPListItemCollection items = list.Items;
        return items;
    }
}
```

SharePoint Farm Dev

- Using .NET and HTML/CSS/JavaScript
- Use webparts
- Address SOM .NET API
- Address an oData / REST end point

SharePoint Farm Dev

- Coding
 - Visual Studio 11 improved item templates
- Debugging
 - Synch & Asynch Processes
 - Attaching from Visual Studio (CKS Dev Tools)
 - Developer Dashboard
- Logging
 - SPMonitoredScope
- Deployment
 - Package (*.WSP) and Feature
 - PowerShell

SharePoint Farm Dev

- Browser DOM Explorer
 - MSIE Developer Tools, etc
- LINQ in & for SharePoint
 - Generate Classes with SPMetal
 - `IEnumerable.Cast<>()`
- External Data
 - Business Connectivity Services
- Reference Data
 - Managed Metadata vs BCS Code Tables vs Lists

Tips

- Field names are not always what you think
 - Filename is *LinkFilename*
- HKEY_CURRENT_USER\Software\Microsoft\VisualStudio\11.0\SharePointTools.
 - DWORD EnableDiagnostics=1

Links

- [SharePoint 2013 development overview \(MSDN\)](#)
- [What's new for developers in SharePoint 2013](#)
- [Choose the right API set in SharePoint 2013 \(MSDN\)](#)
- [Technical diagrams for SharePoint 2013 \(TechNet\)](#)

Tools

- [Microsoft SharePoint Designer](#)
- [CodePlex SharePoint Manager](#)
- [Microsoft ULS Viewer](#)
- [CKS Dev Tools](#)
- [Microsoft SharePoint Online Code Analysis Framework \(MSOCAF\)](#)
- [LinqPad](#)
- [PowerGUI](#)
- [Notepad++](#) / [Notepad++ Portable](#)

Bloggers

- [Andrew Connell](#)
- Chris O'Brien – [SharePoint Nuts and Bolts](#)
- Yaroslav Pentarskyy – [ShareMuch](#)
- Vlad Catrinescu – [Absolute SharePoint](#)
- Peter Holpar – [2nd Life of Hungarian SharePoint Geek](#)
- [Secrets of SharePoint](#)
- [SharePoint Developer Team \(MSDN\)](#)

Questions?

- John Calvert
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 - @softwarecraft99
 - www.softwarecraft.ca
-
- Fill out eval forms => win great prizes
 - Draws after last session

Remember to fill out your evaluation forms to win some great prizes!

&

Join us for SharePint today!

Date & Time: Nov 23rd, 2013 @6:00 pm
Location: The Observatory Pub,
Algonquin Student's Association
Address: A-170 on Algonquin Campus
Parking: No need to move your car!*

Site: <http://www.algonquinsa.com/ob.aspx>