SharePoint 2013 Dev with CSOM and REST – Working with Documents and Libraries

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Outline

- **Creating a custom library (Adding fields)**
- **Uploading documents to a library**

Adding Fields (CSOM)

- **Considerably different than code for Server Object Model**
- **Add field by specifying XML schema**
- **Tip: Prototype list first and use generated field schema**
- **addFieldAsXml**

```
list.get_fields().addFieldAsXml(
    "<Field Type=\"Number\" DisplayName=\"Year\" Name=\"Year\" Min=\"2000\" Max=\"2100\" Decimals=\"0\" />",
    true, SP.AddFieldOptions.defaultValue)
```

```
var field = list.get_fields().addFieldAsXml("<Field Type=\"Number\" DisplayName=\"Year\" Name=\"Year\" />",
    true, SP.AddFieldOptions.defaultValue);
var yearField = context.castTo(field, SP.FieldNumber);
yearField.set_minimumValue(2000);
yearField.set_maximumValue(2100);
yearField.update();
```

Adding Fields (REST)

- **Send POST to /_api/Web/Lists/getByTitle('<List>')/Fields**
- **Message body has appropriate field object**
  - SP.FieldNumber, SP.FieldUser, …

```
var call = jQuery.ajax({
    url: _spPageContextInfo.webAbsoluteUrl +
        "/_api/Web/Lists/getByTitle('Project Documents')/Fields",
    type: "POST",
    data: JSON.stringify({
        "__metadata": { type: "SP.FieldNumber" },
        FieldTypeKind: SP.FieldType.integer,
        Title: "Year",
        InternalName: "Year",
        MinimumValue: 2000,
        MaximumValue: 2100
    }),
    headers: headers
});
```

Uploading Documents (JavaScript)

- **Read documents using HTML 5 File API**

```javascript
if (!window.FileReader) {
    alert("This browser does not support the HTML5 File APIs");
    return;
}

var element = document.getElementById("uploadInput");
var file = element.files[0];
var parts = element.value.split("\\");
var fileName = parts[parts.length - 1];

var reader = new FileReader();
reader.onload = function (e) {
    success2(e.target.result, fileName);
}
reader.onerror = function (e) {
    alert(e.target.error);
}
reader.readAsArrayBuffer(file);
```

Uploading Documents (CSOM)

- **FileCreationInformation**
- **FileCollection.Add(creationInformation) to add**
  - Returns File
- **File.ListItemAllFields to get associated list item**

Managed:

```
var fci = new FileCreationInformation();
fci.Content =
    System.IO.File.ReadAllBytes(filePath);
fci.Url = fileName;
fci.Overwrite = true;
var file = list.RootFolder.Files.Add(fci);
```

JavaScript:

```
var bytes = new Uint8Array(buffer);
var content = new SP.Base64EncodedByteArray();
for (var b = 0; b < bytes.length; b++) {
    content.append(bytes[b]);
}


var fci = new SP.FileCreationInformation();
fci.set_content(content);
fci.set_overwrite(true);
fci.set_url(fileName);
var file = list.get_rootFolder().get_files().add(fci);
```

Uploading Documents (REST)

- **POST**
- **[…]/getByTitle('<list>')/<folder>/Files/Add(url='<file name>')**
- **ListItemAllFields.__deferred.uri to get associated item**

```
var url = String.format("{0}/_api/Web/Lists/getByTitle('Project Documents')" +
    "/RootFolder/Files/Add(url='{1}', overwrite=true)",
    _spPageContextInfo.webAbsoluteUrl, fileName);

var call = jQuery.ajax({
    url: url,
    type: "POST",
    data: buffer,
    processData: false,
    headers: {
        Accept: "application/json;odata=verbose",
        "X-RequestDigest": jQuery("#__REQUESTDIGEST").val(),
        "Content-Length": buffer.byteLength
    }
});
```
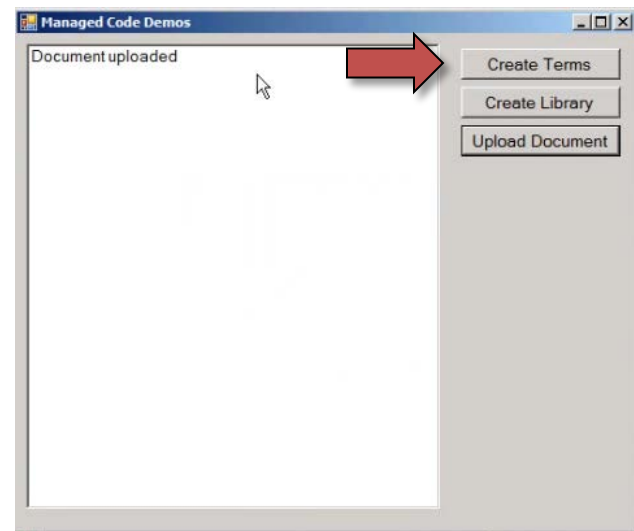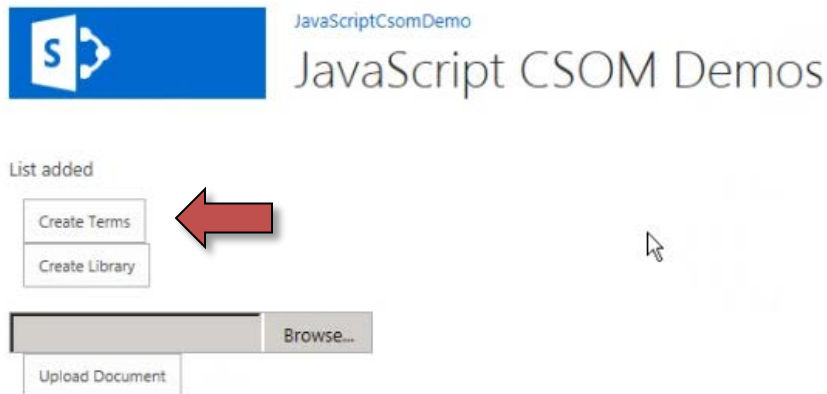
Demonstrations

- **REST API**
    - Demo will be done in two parts
        - Upload document only and upload document with metadata
- **CSOM**
    - Everything in one demo
    - Note: Ignore Create Terms button in demo
        - Order of modules was changed after demo was recorded
        - We'll cover Managed Metadata terms and fields later in the course

Summary

- **Creating a custom library (Adding fields)**
- **Uploading documents to a library**

- **Resources**
  - Uploading Files in SharePoint 2013 using CSOM and REST
    - Scot Hillier
    - http://www.shillier.com/archive/2013/03/26/uploading-files-in-sharepoint-2013-using-csom-and-rest.aspx
  - Using JSOM to write (small) files to a SharePoint 2013 document library
    - Danny Jesse
    - http://dannyjessee.com/blog/index.php/2013/02/using-jsom-to-write-small-files-to-a-sharepoint-2013-document-library/